5 Small-Signal MOSFETs

POWER MOSFETs

Toshiba presents a range of small-signal MOSFET (S-MOS) devices developed for various switching and interface applications. The high-current S-MOS Family has been developed principally for high-current switching applications and has been added to the S-MOS product line. The devices which comprise this family exhibit ultra-low ON-resistance ($R_{DS(ON)}$) and are housed in mini packages. Please select the product whose characteristics best suit your needs.

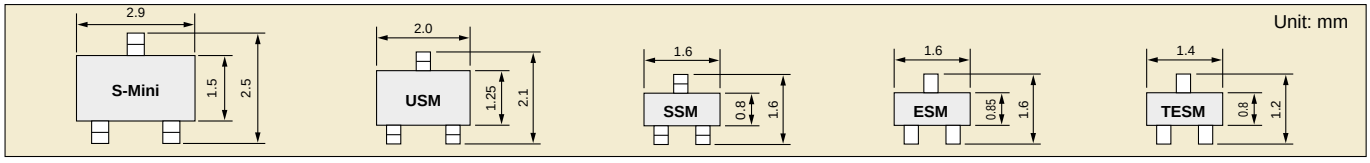
Standard Family single type (0.05 A to 0.4 A class) product line-up

Polarity	Maximum Ratings			Package Type					Vth (V)		Ron (Ω)		@VGS (V)	ton (ns)	toff (ns)
	VDS (V)	VGSS (V)	ID (mA)	TESM	ESM	SSM	USM (SC-70)	S-MINI (SC-59)	Min	Max	Typ.	Max		Typ.	Typ.
N-ch	20	10	50	—	—	**2SK1830**	**2SK1829**	**2SK1828**	0.5	1.5	20	40	2.5	140	140
	20	10	100	—	—	**2SK2825**	**2SK2824**	**2SK2823**	0.5	1.0	10	40	1.5	350	200
	20	10	100	—	—	**2SK2035**	**2SK2034**	**2SK2033**	0.5	1.5	8	12	2.5	160	150
	20	10	100	**SSM3K03TE**	**SSM3K03FE**	—	—	—	0.7	1.3	4	12	2.5	160	190
	20	10	100	—	—	—	**2SK2037**	**2SK2036**	0.5	1.5	3.5	6.0	2.5	280	340
	20	10	100	—	**★SSM3K04FE**	**★SSM3K04FS**	**★SSM3K04FU**	—	0.7	1.3	4	12	2.5	160	190
	20	± 10	100	**△SSM3K16TE**	—	**△SSM3K16FS**	**△SSM3K16FU**	—	0.6	1.1	5.2 / 2.2	15 / 4	1.5 / 2.5	70	125
	20	± 12	400	—	—	—	**SSM3K05FU**	—	0.6	1.1	0.85	1.2	2.5	60	70
	30	± 20	100	**△SSM3K15TE**	—	**△SSM3K15FS**	**△SSM3K15FU**	**△SSM3K15F**	0.8	1.5	4	7	2.5	50	180
	30	± 20	200	—	—	—	—	**2SK2009**	0.5	1.5	1.2	2.0	2.5	60	120
	30	± 20	400	—	—	—	**SSM3K09FU**	—	1.1	1.8	0.8	1.2	4	72	68
	50	10	50	—	—	—	**2SK1827**	**2SK1826**	0.8	2.5	20	50	4	110	150
	50	± 7	100	—	—	—	**△SSM3K17FU**	—	0.9	1.5	12	20	4	100	40
	60	± 20	200	—	—	—	—	**2SK1062**	2.0	3.5	0.6	1.0	10	14	75
P-ch	– 20	– 7	– 50	—	—	**2SJ347**	**2SJ346**	**2SJ345**	– 0.5	– 1.5	20	40	– 2.5	150	130
	– 20	± 12	– 100	**△SSM3J16TE**	—	**△SSM3J16FS**	**△SSM3J16FU**	—	– 0.6	– 1.1	18 / 8	45 / 12	– 1.5 / – 2.5	130	190
	– 20	± 12	– 200	—	—	—	**SSM3J05FU**	—	– 0.6	– 1.1	3.2	4.0	– 2.5	70	70
	– 30	± 20	– 100	**△SSM3J15TE**	—	**△SSM3J15FS**	**△SSM3J15FU**	**△SSM3J15F**	– 1.1	– 1.7	14	32	– 2.5	65	175
	– 30	± 20	– 200	—	—	—	—	**2SJ305**	– 0.5	– 1.5	2.4	4.0	– 2.5	60	150
	– 30	± 20	– 200	—	—	—	**SSM3J09FU**	—	– 1.1	– 1.8	3.3	4.2	– 4	85	85
	– 50	– 7	– 50	—	—	—	**2SJ344**	**2SJ343**	– 0.8	– 2.5	20	50	– 4	150	130
	– 60	± 20	– 200	—	—	—	—	**2SJ168**	– 2.0	– 3.5	1.3	2.0	– 10	14	100

★: Built-in R_{GS} = 1MΩ

△: New products

Package list



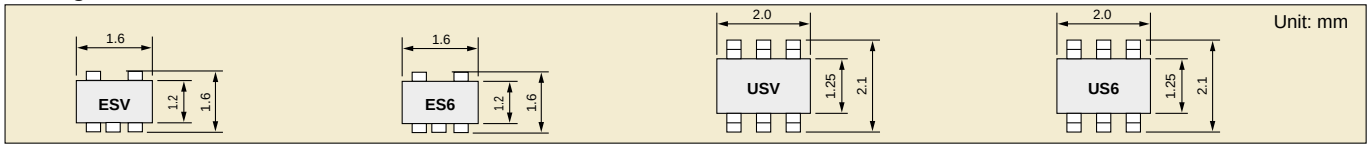
Standard Family dual type (0.05 A to 0.4 A class) product line-up

Polarity	Maximum Ratings			Package Type				Component FETs	Vth (V)		RON (Ω)		@VGS (V)
	VDSS (V)	VGSS (V)	ID (mA)	ESV	ES6	USV	US6		Min	Max	Typ.	Max	
N-ch × 2	20	10	50	—	—	—	**HN1K02FU**	2SK1829 × 2	0.5	1.5	20	40	2.5
	20	10	100	—	—	**HN4K03JU**	**HN1K03FU**	2SK2034 × 2	0.5	1.5	8	12	2.5
	20	10	100	—	—	—	**HN1K05FU**	2SK2824 × 2	0.5	1	10	40	1.5
	20	10	100	—	—	—	**HN1K06FU**	2SK2037 × 2	0.5	1.5	3.5	6	2.5
	20	10	100	—	—	—	**★SSM6N04FU**	SSM3K04FU × 2	0.7	1.3	4	12	2.5
	20	10	100	**SSM5N03FE**	**SSM6N03FE**	—	—	SSM3K03FE × 2	0.7	1.3	4	12	2.5
	20	± 10	100	**△SSM5N16FE**	**△SSM6N16FE**	**△SSM5N16FU**	**△SSM6N16FU**	SSM3K16FU × 2	0.6	1.1	5.2	15	1.5
	20	± 12	400	—	—	**SSM5N05FU**	**SSM6N05FU**	SSM3K05FU × 2	0.6	1.1	0.85	1.2	2.5
	30	± 20	100	**△SSM5N15FE**	**△SSM6N15FE**	**△SSM5N15FU**	**△SSM6N15FU**	SSM3K15FU × 2	0.8	1.5	4	7	2.5
	30	± 20	400	—	—	—	**SSM6N09FU**	SSM3K09FU × 2	1.1	1.8	0.8	1.2	4
	50	10	50	—	—	—	**HN1K04FU**	2SK1827 × 2	0.8	2.5	20	50	4
	50	± 7	100	—	—	—	**SSM6N17FU**	SSM3K17FU × 2	0.9	1.5	12	20	4
P-ch × 2	– 20	– 7	– 50	—	—	—	**HN1J02FU**	2SJ346 × 2	0.5	– 1.5	20	40	– 2.5
	– 20	± 12	– 100	**SSM5P16FE***	**SSM6P16FE***	**SSM5P16FU***	**SSM6P16FU***	SSM3J16FU × 2	– 0.6	– 1.1	18	45	– 1.5
	– 20	± 12	– 200	—	—	**SSM5P05FU**	**SSM6P05FU**	SSM3J05FU × 2	– 0.6	– 1.1	3	4	– 2.5
	– 30	± 20	– 100	**SSM5P15FE***	**SSM6P15FE***	**SSM5P15FU***	**SSM6P15FU***	SSM3J15FU × 2	– 1.1	– 1.7	14	32	– 2.5
	– 30	± 20	– 200	—	—	—	**SSM6P09FU**	SSM3J09FU × 2	– 1.1	– 1.8	3.3	4.2	– 4
N-ch + P-ch	20	10	50	—	—	—	**HN1L02FU**	2SK1829 + 2SJ346	0.5	1.5	20	40	2.5
	– 20	– 7	– 50						– 0.5	– 1.5	20	40	– 2.5
	50	10	50	—	—	—	**HN1L03FU**	2SK1827 + 2SJ346	0.8	2.5	20	50	4
	– 20	– 7	– 50						– 0.5	– 1.5	20	40	– 2.5
	20	± 12	400	—	—	—	**SSM6L05FU**	SSM3K05FU	0.6	1.1	0.85	1.2	2.5
	– 20	± 12	– 200					SSM3J05FU	– 0.6	– 1.1	3.2	4	– 2.5
	30	± 20	400	—	—	—	**SSM6L09FU**	SSM3K09FU	1.1	1.8	0.8	1.2	4
	– 30	± 20	– 200					SSM3J09FU	– 1.1	– 1.8	3.3	4.2	– 4

★: Built-in R_{GS} = 1MΩ

△: New products *: Under development

Package list



High-Current Family (0.6 A to 4.0A class) product line-up

Single Type

Polarity	Maximum Rating			Package Type			Vth (V)		RDS(ON) (mΩ)		@VGS (V)	ton (ns)	toff (ns)	Ciss (pF)
	VDS (V)	VGSS (V)	ID (A)	US6	TSM	S-MINI	Min	Max	Typ.	Max		Typ.	Typ.	Typ.
N-ch	20	±12	1.1	**SSM6K06FU**	—	—	0.6	1.1	160	210	2.5	42	100	125
									120	160	4			
	20	±12	1.6	**SSM6K08FU**	—	—	0.5	1.2	100	140	2.5	16	15	306
									77	105	4			
	30	±10	1.0	—	—	**SSM3K02F**	0.6	1.1	180	250	2.5	52	80	115
									140	200	4			
	30	±10	1.3	—	—	**SSM3K01F**	0.6	1.1	115	150	2.5	45	69	152
									85	120	4			
	30	±20	1.5	**SSM6K07FU**	—	—	1.1	1.8	170	220	4	46	65	102
									105	130	10			
	30	±10	2.5	—	**SSM3K02T**	—	0.6	1.1	180	250	2.5	52	80	115
									140	200	4			
	30	±20	3.0	—	**SSM3K12T**	—	1.1	1.8	135	175	4	21	16	120
									78	95	10			
	30	±10	3.2	—	**SSM3K01T**	—	0.6	1.1	115	150	2.5	45	69	152
									85	120	4			
	30	±20	4.0	—	**△SSM3K14T**	—	1.0	2.5	50	67	4	24	19	460
									31	39	10			
P-ch	−12	±8	−3.0	—	**SSM3J13T**	—	−0.45	−1.1	70	95	−2.5	48	120	890
									50	70	−4			
	−20	±12	−0.65	**SSM6J06FU**	—	—	−0.6	−1.1	550	700	−2.5	27	43	160
									400	500	−4			
	−20	±12	−1.3	**△SSM6J08FU**	—	—	−0.5	−1.1	200	260	−2.5	33	47	370
									140	180	−4			
	−30	±10	−0.6	—	—	**SSM3J02F**	−0.6	−1.1	550	700	−2.5	55	52	150
									400	500	−4			
	−30	±10	−0.7	—	—	**SSM3J01F**	−0.6	−1.1	400	600	−2.5	36	37	240
									300	400	−4			
	−30	±20	−0.8	**SSM6J07FU**	—	—	−1.1	−1.8	570	800	−4	28	38	130
									350	450	−10			
	−30	±10	−1.5	—	**SSM3J02T**	—	−0.6	−1.1	550	700	−2.5	55	52	150
									400	500	−4			
	−30	±10	−1.7	—	**SSM3J01T**	—	−0.6	−1.1	400	600	−2.5	36	37	240
									300	400	−4			
	−30	±20	−2.7	—	**△SSM3J14T**	—	−0.8	−2.0	120	170	−4	29	29	413
									63	85	−10			

△: New product

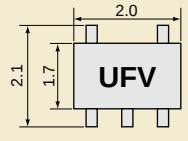
MOSFET + SBD

Polarity	Package Type	MOSFET										SBD				
	UFV	VDS (V)	VGSS (V)	ID (A)	Vth(V)		RDS(ON)(mΩ)			ton(ns) Typ.	toff(ns) Typ.	Ciss(pF) Typ.	VR (V)	IO (A)	VF (V)			IR(uA) Max
					Min	Max	Typ.	Max	@VGS(V)						Typ.	Max	@IF(A)	
P-ch + SBD	**△SSM5G01TU**	−30	±20	−1.0	−0.8	−1.8	0.62	0.80	−4	14	8.5	86	20	0.5	0.4	0.45	0.3	50
							0.32	0.40	−10						0.5	0.55	0.5	
	SSM5G02TU*	−12	±12	−1.0	−0.4	−1.1	0.19	0.30	−2.5	20	32	310	12	0.5	0.3	0.39	0.3	100
							0.12	0.18	−4						0.4	0.43	0.5	

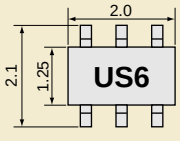
△: New product *: Under development

Package list

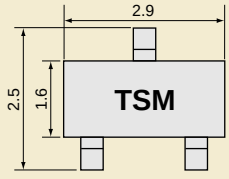
UFV



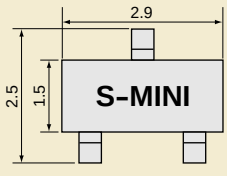
US6 (SC-88)



TSM (t = 0.7 mm)



S-Mini(SC-59) Unit: mm



Power modules enable high-density mounting and are the simples of all multi-chip devices in structural terms. Use of these modules enables the construction of compact power supplies for electronic equipment.

S-10M Serues (4in1)

Polarity and Circuit Configuration	Product No.	Maximum Ratings			Electrical Characteristics (Ta = 25°C)				4-V Drive
		V_{DSS} (V)	I_D (A)	P_T (Ta = 25°C) (W)	$R_{DS(ON)}$ (Ω) (Typ.)	$R_{DS(ON)}$ (Ω) (Max)	V_{GS} (V)	I_D (A)	
N-ch x 4	**MP4210**	60	5	4	0.12	0.16	10	2.5	○
	MP4209	100	3	4	0.28	0.35	10	2.0	○
P-ch x 4	**MP4211**	−60	−5	4	0.16	0.19	−10	−2.5	○
	MP4208	−60	−5	4	0.20	0.30	−10	−2.5	○
N-ch x 2 + P-ch x 2	**MP4212**	60	5	4	0.12	0.16	10	2.5	○
		−60	−5		0.16	0.19	−10	−2.5	

S-12M Serues (4in1, 6in1)

Polarity and Circuit Configuration	Product No.	Maximum Ratings			Electrical Characteristics (Ta = 25°C)				4-V Drive
		V_{DSS} (V)	I_D (A)	P_T (Ta = 25°C) (W)	$R_{DS(ON)}$ (Ω) (Typ.)	$R_{DS(ON)}$ (Ω) (Max)	V_{GS} (V)	I_D (A)	
N-ch x 2 + P-ch x 2 with FB-Di	**MP4411**	100	3	4.4	0.28	0.35	10	2.0	○
	MP4412	100	5	4.4	0.17	0.23	10	2.5	○
N-ch x 4	**MP4410**	60	5	4.4	0.12	0.16	10	2.5	○
N-ch x 3 + P-ch x 3	**MP6404**	60	5	4.4	0.12	0.16	10	2.5	○
		−60	−5		0.16	0.19	−10	−2.5	

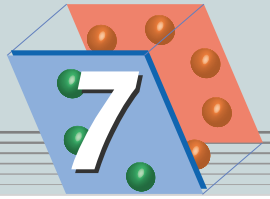
F-12M Serues (4in1, 6in1)

Polarity and Circuit Configuration	Product No.	Maximum Ratings			Electrical Characteristics (Ta = 25°C)				4-V Drive
		V_{DSS} (V)	I_D (A)	P_T (Ta = 25°C) (W)	$R_{DS(ON)}$ (Ω) (Typ.)	$R_{DS(ON)}$ (Ω) (Max)	V_{GS} (V)	I_D (A)	
N-ch x 2 + P-ch x 2 with FB-Di	**MP4711**	100	5	36	0.17	0.23	10	2.5	○

Power MOSFET Product List

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
2SJ200	π-MOSⅡ	TO-3P(N)	−180	−10	0.83	—
2SJ201	π-MOSⅡ	TO-3P(N)	−200	−12	0.63	—
2SJ304	L²-π-MOSⅣ	TO-220(NIS)	−60	−14	0.12	—
2SJ312	L²-π-MOSⅣ	TO-220FL/SM	−60	−14	0.12	—
2SJ313	π-MOSⅡ	TO-220(NIS)	−180	−1	5.0	—
2SJ315	L²-π-MOSⅣ	PW-MOLD	−60	−5	0.25	—
2SJ334	L²-π-MOSⅤ	TO-220(NIS)	−60	−30	0.038	P 19
2SJ338	v-MOSⅡ	PW-MOLD	−180	−1	5.0	—
2SJ349	L²-π-MOSⅤ	TO-220(NIS)	−60	−20	0.045	P 19
2SJ360	L²-π-MOSⅤ	PW-MINI	−60	−1	0.73	P 19
2SJ377	L²-π-MOSⅤ	PW-MOLD	−60	−5	0.19	P 19
2SJ378	L²-π-MOSⅤ	TPS	−60	−5	0.19	P 19
2SJ380	L²-π-MOSⅤ	TO-220(NIS)	−100	−12	0.21	P 19
2SJ401	L²-π-MOSⅤ	TO-220FL/SM	−60	−20	0.045	P 19
2SJ402	L²-π-MOSⅤ	TO-220FL/SM	−60	−30	0.038	P 19
2SJ407	π-MOSⅤ	TO-220(NIS)	−200	−5	1.0	P 21
2SJ412	L²-π-MOSⅤ	TO-220FL/SM	−100	−16	0.21	P 19
2SJ438	L²-π-MOSⅤ	TO-220(NIS)	−60	−5	0.19	P 19
2SJ439	π-MOSⅤ	PW-MOLD	−16	−5	0.2	P 21
2SJ440	π-MOSⅡ	TO-3P(N)IS	−180	−9	0.8	—
2SJ464	L²-π-MOSⅤ	TO-220(NIS)	−100	−18	0.12	P 19
2SJ465	π-MOSⅤ	PW-MINI	−16	−2	0.71	P 21
2SJ507	L²-π-MOSⅤ	TO-92MOD	−60	−1	0.7	P 19
2SJ508	L²-π-MOSⅤ	PW-MINI	−100	−1	1.9	P 19
2SJ509	L²-π-MOSⅤ	TO-92MOD	−100	−1	1.9	P 19
2SJ511	L²-π-MOSⅤ	PW-MINI	−30	−2	0.45	P 19
2SJ512	π-MOSⅤ	TO-220(NIS)	−250	−5	1.25	P 21
2SJ516	π-MOSⅤ	TO-220(NIS)	−250	−6.5	0.8	P 21
2SJ525	L²-π-MOSⅤ	TPS	−30	−5	0.12	P 19
2SJ537	L²-π-MOSⅤ	TO-92MOD	−50	−5	0.19	P 19
2SJ567	π-MOSⅤ	PW-MOLD	−200	−2.5	2.0	P 21
2SJ610	π-MOSⅤ	PW-MOLD	−250	−2	2.55	P 21
2SJ619	L²-π-MOSⅤ	TFP	−100	−16	0.21	P 14
2SJ620	L²-π-MOSⅤ	TFP	−100	−18	0.09	P 14
2SK1119	π-MOSⅡ.5	TO-220AB	1000	4	3.8	—
2SK1120	π-MOSⅡ.5	TO-3P(N)	1000	8	1.8	—
2SK1359	π-MOSⅡ.5	TO-3P(N)	100	5	3.8	—
2SK1365	π-MOSⅡ.5	TO-3P(N)IS	1000	7	1.8	—
2SK1381	L²-π-MOSⅢ	TO-3P(N)	100	50	0.032	—
2SK1382	L²-π-MOSⅢ	TO-3P(L)	100	60	0.02	—
2SK1486	π-MOSⅢ.5	TO-3P(L)	300	32	0.095	—
2SK1489	π-MOSⅢ.5	TO-3P(L)	1000	12	1.0	—
2SK1529	π-MOSⅡ	TO-3P(N)	180	10	0.83	—
2SK1530	π-MOSⅡ	TO-3P(N)	200	12	0.63	—
2SK1544	π-MOSⅢ.5	TO-3P(L)	500	25	0.2	—
2SK1930	π-MOSⅡ.5	TO-220FL/SM	1000	4	3.8	—
2SK2013	π-MOSⅡ	TO-220(NIS)	180	1	5.0	—
2SK2162	π-MOSⅡ	PW-MOLD	180	1	5.0	—
2SK2173	L²-π-MOSⅤ	TO-3P(N)	60	50	0.017	P 18
2SK2200	L²-π-MOSⅤ	TPS	100	3	0.35	P 18
2SK2201	L²-π-MOSⅤ	PW-MOLD	100	3	0.35	P 18
2SK2229	L²-π-MOSⅤ	TPS	60	5	0.16	P 18

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
2SK2231	L²-π-MOSⅤ	PW-MOLD	60	5	0.16	P 18
2SK2232	L²-π-MOSⅤ	TO-220(NIS)	60	25	0.046	P 18
2SK2233	L²-π-MOSⅤ	TO-3P(N)	60	45	0.03	P 18
2SK2266	L²-π-MOSⅤ	TO-220FL/SM	60	45	0.03	P 18
2SK2267	L²-π-MOSⅤ	TO-3P(L)	60	60	0.011	P 18
2SK2274	π-MOSⅡ.5	TO-220(NIS)	700	5	1.7	—
2SK2311	L²-π-MOSⅤ	TO-220FL/SM	60	25	0.046	P 18
2SK2312	L²-π-MOSⅤ	TO-220(NIS)	60	45	0.017	P 18
2SK2313	L²-π-MOSⅤ	TO-3P(N)	60	60	0.011	P 18
2SK2314	L²-π-MOSⅤ	TO-220AB	100	27	0.085	P 18
2SK2350	π-MOSⅤ	TO-220(NIS)	200	8.5	0.4	P 21
2SK2376	L²-π-MOSⅤ	TO-220FL/SM	60	45	0.017	P 18
2SK2381	π-MOSⅤ	TO-220(NIS)	200	5	0.8	P 21
2SK2382	π-MOSⅤ	TO-220(NIS)	200	15	0.18	P 21
2SK2385	L²-π-MOSⅤ	TO-220(NIS)	60	36	0.03	P 18
2SK2391	L²-π-MOSⅤ	TO-220(NIS)	100	20	0.085	P 18
2SK2398	π-MOSⅤ	TO-3P(N)	60	45	0.03	P 18
2SK2399	L²-π-MOSⅤ	PW-MOLD	100	5	0.23	P 18
2SK2400	L²-π-MOSⅤ	TPS	100	5	0.23	P 18
2SK2401	π-MOSⅤ	TO-220FL/SM	200	15	0.18	P 21
2SK2417	π-MOSⅤ	TO-220(NIS)	250	7.5	0.5	P 21
2SK2445	π-MOSⅤ	TO-3P(N)	60	50	0.018	P 18
2SK2466	U-MOS	TO-220(NIS)	100	30	0.046	P 20
2SK2467	π-MOSⅡ	TO-3P(N)IS	180	9	0.8	—
2SK2493	π-MOSⅤ	PW-MOLD	16	5	0.1	P 21
2SK2507	L²-π-MOSⅤ	TO-220(NIS)	50	25	0.046	P 18
2SK2508	π-MOSⅤ	TO-220(NIS)	250	13	0.25	P 21
2SK2542	π-MOSⅤ	TO-220AB	500	8	0.85	P 23
2SK2543	π-MOSⅤ	TO-220(NIS)	500	8	0.85	P 23
2SK2544	π-MOSⅤ	TO-220AB	600	6	1.25	P 23
2SK2545	π-MOSⅤ	TO-220(NIS)	600	6	1.25	P 23
2SK2549	π-MOSⅤ	PW-MINI	16	2	0.29	—
2SK2550	L²-π-MOSⅤ	TO-3P(N)	50	45	0.03	P 18
2SK2551	L²-π-MOSⅤ	TO-3P(N)	50	50	0.011	P 18
2SK2598	π-MOSⅤ	TO-220FL/SM	250	13	0.25	P 21
2SK2599	π-MOSⅤ	TPS	500	2	3.2	P 23
2SK2601	π-MOSⅤ	TO-3P(N)	500	10	1.0	P 23
2SK2602	π-MOSⅤ	TO-3P(N)	600	6	1.25	P 23
2SK2603	π-MOSⅢ	TO-220AB	800	3	3.6	P 26
2SK2604	π-MOSⅢ	TO-3P(N)	800	5	2.2	P 26
2SK2605	π-MOSⅢ	TO-220(NIS)	800	5	2.2	P 26
2SK2606	π-MOSⅢ	TO-3P(N)IS	800	8.5	1.2	P 26
2SK2607	π-MOSⅢ	TO-3P(N)	800	9	1.2	P 26
2SK2608	π-MOSⅢ	TO-220AB	900	3	4.3	P 26
2SK2610	π-MOSⅢ	TO-3P(N)	900	5	2.5	P 26
2SK2611	π-MOSⅢ	TO-3P(N)	900	9	1.4	P 26
2SK2614	L²-π-MOSⅤ	DP	50	20	0.046	P 18
2SK2615	L²-π-MOSⅤ	PW-MINI	60	2	0.3	P 18
2SK2661	π-MOSⅤ	TO-220AB	500	5	1.5	P 23
2SK2662	π-MOSⅤ	TO-220(NIS)	500	5	1.5	P 23
2SK2679	π-MOSⅤ	TO-220(NIS)	400	5.5	1.2	P 23
2SK2698	π-MOSⅤ	TO-3P(N)	500	15	0.4	P 23



Power MOSFET Product List

POWER MOSFETs

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
2SK2699	π-MOSⅤ	TO-3P(N)	600	12	0.65	P 23
2SK2700	π-MOSⅢ	TO-220(NIS)	900	3	4.3	P 26
2SK2717	π-MOSⅢ	TO-220(NIS)	900	5	2.5	P 26
2SK2718	π-MOSⅢ	TO-220(NIS)	900	2.5	6.4	P 26
2SK2719	π-MOSⅢ	TO-3P(N)	900	3	4.3	P 26
2SK2733	π-MOSⅢ	TO-220AB	900	1	9.0	P 26
2SK2741	L²-π-MOSⅤ	SP	60	5	0.16	P 18
2SK2742	L²-π-MOSⅤ	SP	100	3	0.35	P 18
2SK2744	π-MOSⅤ	TO-3P(N)	50	45	0.02	P 18
2SK2745	L²-π-MOSⅤ	TO-3P(N)	50	50	0.0095	P 18
2SK2746	π-MOSⅢ	TO-3P(N)	800	7	1.7	P 26
2SK2749	π-MOSⅢ	TO-3P(N)	900	7	2.0	P 26
2SK2750	π-MOSⅤ	TO-220(NIS)	600	3.5	2.2	P 23
2SK2776	π-MOSⅤ	TO-220FL/SM	500	8	0.85	P 23
2SK2777	π-MOSⅤ	TO-220FL/SM	600	6	1.25	P 23
2SK2782	L²-π-MOSⅤ	DP	60	20	0.055	P 18
2SK2789	L²-π-MOSⅤ	TO-220FL/SM	100	27	0.085	P 18
2SK2835	π-MOSⅤ	TPS	200	5	0.8	P 21
2SK2836	π-MOSⅤ	SP	600	1	9.0	P 23
2SK2837	π-MOSⅤ	TO-3P(N)	500	20	0.27	P 23
2SK2838	π-MOSⅤ	TO-220FL/SM	400	5.5	1.2	P 23
2SK2839	L²-π-MOSⅤ	SP	30	10	0.04	P 18
2SK2841	π-MOSⅤ	TO-220AB	400	9	0.55	P 23
2SK2842	π-MOSⅤ	TO-220(NIS)	500	12	0.52	P 23
2SK2843	π-MOSⅤ	TO-220(NIS)	600	10	0.75	P 23
2SK2844	L²-π-MOSⅤ	TO-220AB	30	35	0.02	P 18
2SK2845	π-MOSⅢ	DP	900	1	9.0	P 26
2SK2846	π-MOSⅤ	TPS	600	2	5.0	P 23
2SK2847	π-MOSⅢ	TO-3P(N)IS	900	8	1.4	P 26
2SK2862	π-MOSⅤ	TO-220(NIS)	500	2	3.0	P 23
2SK2865	π-MOSⅤ	PW-MOLD	600	2	5.0	P 23
2SK2866	π-MOSⅤ	TO-220AB	600	10	0.75	P 23
2SK2882	L²-π-MOSⅤ	TO-220(NIS)	150	18	0.12	P 21
2SK2883	π-MOSⅢ	TO-220FL/SM	800	3	3.6	P 28
2SK2884	π-MOSⅢ	TO-220FL/SM	800	5	2.2	P 26
2SK2886	L²-π-MOSⅤ	TO-220(NIS)	50	45	0.02	P 18
2SK2889	π-MOSⅤ	TO-220FL/SM	600	10	0.75	P 23
2SK2914	π-MOSⅤ	TO-220AB	250	8.5	0.5	P 21
2SK2915	π-MOSⅤ	TO-3P(N)	600	16	0.4	P 23
2SK2916	π-MOSⅤ	TO-3P(N)IS	500	14	0.4	P 23
2SK2917	π-MOSⅤ	TO-3P(N)IS	500	18	0.27	P 23
2SK2920	π-MOSⅤ	PW-MOLD	500	5	0.8	P 21
2SK2949	π-MOSⅤ	TO-220FL/SM	400	10	0.55	P 23
2SK2952	π-MOSⅤ	TO-220(NIS)	400	8.5	0.55	P 23
2SK2953	π-MOSⅤ	TO-3P(N)IS	600	15	0.4	P 23
2SK2961	L²-π-MOSⅤ	TO-92MOD	60	2	0.3	P 18
2SK2962	L²-π-MOSⅤ	TO-92MOD	100	1	0.7	P 18
2SK2963	L²-π-MOSⅤ	PW-MINI	100	1	0.7	P 18
2SK2964	L²-π-MOSⅤ	PW-MINI	30	12	0.18	P 18
2SK2965	π-MOSⅤ	TO-220(NIS)	200	11	0.26	P 21
2SK2967	π-MOSⅤ	TO-3P(N)	250	30	0.068	P 21
2SK2968	π-MOSⅢ	TO-3P(N)	900	10	1.25	P 26

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
2SK2985	U-MOS	TO-220(NIS)	60	45	5.8	P 20
2SK2986	U-MOS	TO-220FL/SM	60	55	5.8	P 20
2SK2987	U-MOS	TO-3P(N)	60	70	5.8	P 20
2SK2989	L²-π-MOSⅤ	TO-92MOD	50	5	0.15	P 18
2SK2991	π-MOSⅤ	TO-220FL/SM	500	5	1.5	P 23
2SK2992	π-MOSⅤ	PW-MINI	200	1	3.5	P 21
2SK2993	π-MOSⅤ	TO-220FL/SM	250	20	0.105	P 21
2SK2995	π-MOSⅤ	TO-3P(N)IS	250	30	0.068	P 21
2SK2996	π-MOSⅤ	TO-220(NIS)	600	10	1.0	P 23
2SK2998	π-MOSⅤ	TO-92MOD	500	0.5	18	P 23
2SK3017	π-MOSⅢ	TO-3P(N)IS	900	8.5	1.25	P 26
2SK3051	L²-π-MOSⅤ	TO-220FL/SM	60	45	0.03	P 18
2SK3067	π-MOSⅤ	TO-220(NIS)	600	2	5.0	P 23
2SK3068	π-MOSⅤ	TO-220FL/SM	500	12	0.52	P 23
2SK3084	U-MOS	TO-220FL/SM	100	30	0.046	P 20
2SK3085	π-MOSⅤ	TO-220AB	600	3.5	2.2	P 23
2SK3089	L²-π-MOSⅤ	TO-220FL/SM	30	40	0.03	P 18
2SK3090	L²-π-MOSⅤ	TO-220FL/SM	30	45	0.02	P 18
2SK3117	π-MOSⅤ	TO-3P(SM)	500	20	0.27	P 23
2SK3125	L²-π-MOSⅤ	TO-3P(SM)	30	60	0.007	P 18
2SK3126	π-MOSⅤ	TO-220(NIS)	450	10	0.65	P 23
2SK3127	L²-π-MOSⅤ	TO-220FL/SM	30	45	0.011	P 18
2SK3128	L²-π-MOSⅤ	TO-3P(N)	30	60	0.011	P 18
2SK3129	π-MOSⅥ	TO-3P(N)	50	60	0.07	
2SK3130	π-MOSⅤ	TO-220(NIS)	600	6	1.5	P 22
2SK3131	π-MOSⅤ	TO-3P(L)	500	50	0.11	P 22
2SK3132	π-MOSⅤ	TO-3P(L)	500	50	0.095	P 23
2SK3176	π-MOSⅤ	TO-3P(N)	200	30	0.052	P 21
2SK3205	L²-π-MOSⅤ	PW-MOLD	150	5	0.5	—
2SK3236	U-MOS	TO-220(NIS)	60	45	0.02	P 20
2SK3265	π-MOSⅤ	TO-220(NIS)	700	10	1.0	P 23
2SK3301	π-MOSⅢ	PW-MOLD	900	1	20	P 26
2SK3302	π-MOSⅤ	TPS	500	0.5	18	P 23
2SK3309	π-MOSⅤ	TO-220FL/SM	450	10	0.65	P 22
2SK3310	π-MOSⅤ	TO-220(NIS)	450	10	0.65	P 22
2SK3313	π-MOSⅤ	TO-220(NIS)	500	12	0.62	P 22
2SK3314	π-MOSⅤ	TO-3P(N)	500	15	0.48	P 22
2SK3316	π-MOSⅤ	TO-220(NIS)	500	5	1.8	P 22
2SK3342	π-MOSⅤ	PW-MOLD	250	4.5	1.0	P 21
2SK3371	π-MOSⅤ	PW-MOLD	600	1	9.0	P 23
2SK3373	π-MOSⅤ	PW-MOLD	500	2	3.2	—
2SK3374	π-MOSⅤ	TPS	450	1	4.6	—
2SK3387	L²-π-MOSⅤ	TFP	150	18	0.08	P 14
2SK3388	π-MOSⅤ	TFP	250	20	0.105	P 14
2SK3389	U-MOSⅡ	TFP	30	75	0.005	P 14
2SK3397	U-MOSⅡ	TFP	60	70	0.06	P 14
2SK3398	π-MOSⅤ	TFP	500	12	0.52	P 14
2SK3399	π-MOSⅤ	TO-220FL/SM	600	10	0.75	P 22
2SK3403	π-MOSⅤ	TO-220FL/SM	450	13	0.4	P 22
2SK3407	π-MOSⅤ	TO-220(NIS)	450	10	0.65	—
2SK3417	π-MOSⅤ	TO-220FL/SM	500	5	1.8	P 22
2SK3437	π-MOSⅤ	TO-220FL/SM	600	10	1.0	P 22

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
2SK3439	U-MOSⅡ	TFP	30	75	0.005	P 14
2SK3440	U-MOSⅡ	TFP	60	75	0.008	P 14
2SK3441	U-MOSⅡ	TFP	60	75	0.0058	P 14
2SK3442	U-MOSⅡ	TFP	100	75	0.015	P 14
2SK3443	π-MOSⅤ	TFP	100	30	0.028	P 14
2SK3444	π-MOSⅤ	TFP	200	25	0.055	P 14
2SK3445	π-MOSⅤ	TFP	250	20	0.105	P 14
2SK3453	π-MOSⅣ	TO-3P(N)IS	700	10	1.0	P 23
2SK3462	π-MOSⅤ	PW-MOLD	250	3	1.7	P 21
2SK3466	π-MOSⅤ	TFP	500	5	1.5	P 14
2SK3471	π-MOSⅤ	PW-MINI	500	0.5	18	P 23
2SK3472	π-MOSⅤ	PW-MOLD	450	1	4.6	P 23
2SK3498	π-MOSⅤ	PW-MOLD	400	1	5.5	P 23
2SK3499	π-MOSⅤ	TFP	400	8.5	0.55	P 14
2SK3506	π-MOSⅤ	TO-3P(N)	30	45	0.02	—
2SK3626	π-MOSⅤ	Slim-TFP	500	8	0.85	P 17
2SK3627	π-MOSⅤ	Slim-TFP	500	5	1.5	P 17
TPC6001	U-MOSⅡ	VS-6	20	6	0.03	P 13
TPC6002	U-MOSⅡ	VS-6	30	6	0.03	P 13
TPC6003	U-MOSⅢ	VS-6	30	6	0.024	P 13
TPC6004	U-MOSⅢ	VS-6	20	6	0.024	P 13
TPC6005	U-MOSⅢ	VS-6	30	6	0.028	P 13
TPC6101	U-MOSⅡ	VS-6	−20	−4.5	0.06	P 13
TPC6102	U-MOSⅡ	VS-6	−30	−4.5	0.06	P 13
TPC6103	U-MOSⅢ	VS-6	−12	−4.5	0.035	P 13
TPC6104	U-MOSⅢ	VS-6	−20	−4.5	0.04	P 13
TPC6105	U-MOSⅢ	VS-6	−20	−2.7	0.11	P 13
TPC6201	U-MOSⅡ	VS-6	30	2.5	0.095	P 13
TPC8001	L^2-π-MOS Ⅵ	SOP-8	30	7	0.02	P 10
TPC8003	U-MOSⅡ	SOP-8	30	13	0.007	P 10
TPC8004	L^2-π-MOS Ⅵ	SOP-8	30	5	0.05	P 10
TPC8006-H	U-MOSⅡ	SOP-8	30	7	0.027	P 10
TPC8009-H	U-MOSⅢ	SOP-8	30	13	0.01	P 10
TPC8010-H	U-MOSⅢ	SOP-8	30	11	0.016	P 10
TPC8012-H	π-MOSⅤ	SOP-8	200	1.8	0.4	P 10
TPC8013-H	U-MOSⅢ	SOP-8	30	15	0.0065	P 10
TPC8015-H	U-MOSⅢ	SOP-8	30	13	0.0075	P 10
TPC8016-H	U-MOSⅢ	SOP-8	30	15	0.0055	P 10
TPC8014	U-MOSⅢ	SOP-8	30	11	0.014	P 10
TPC8104-H	U-MOSⅡ	SOP-8	−30	−5	0.065	P 10
TPC8105-H	U-MOSⅡ	SOP-8	−30	−7	0.04	P 10
TPC8107	U-MOSⅢ	SOP-8	−30	−13	0.007	P 10

Product No.	Series	Package	Main Characteristics			Page
			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ (Ω)	
TPC8108	U-MOSⅢ	SOP-8	−30	−11	0.013	P 10
TPC8109	U-MOSⅢ	SOP-8	−30	−10	0.02	P 10
TPC8111	U-MOSⅣ	SOP-8	60	7	0.05	P 10
TPC8203	U-MOSⅡ	SOP-8	20	6	0.02	P 10
TPC8206	U-MOSⅡ	SOP-8	20	5	0.05	P 10
TPC8207	U-MOSⅡ	SOP-8	30	5	0.04	P 10
TPC8208	U-MOSⅡ	SOP-8	−30	−3.5	0.12	P 10
TPC8209	U-MOSⅡ	SOP-8	−20	−3.5	0.12	P 10
TPC8301	L^2-π-MOS Ⅵ	SOP-8	−30	−4.5	0.035	P 10
TPC8302	π-MOS Ⅵ	SOP-8	−20	−5	0.03	P 10
TPC8303	U-MOSⅡ	SOP-8	−30/30	−4.5/6	35/21	P 10
TPC8305	U-MOSⅡ	SOP-8	−30/30	−4.5/5	35/50	P 10
TPC8401	U-MOSⅡ	SOP-8	−30	−11	0.012	P 10
TPC8402	U-MOSⅡ/π-MOS Ⅵ	SOP-8	30	6	0.021	P 10
TPC8403	U-MOSⅡ	SOP-8	−30/30	−4.5/6	55/33	P 10
TPC8A01	U-MOSⅢ	SOP-8	30	6/8.5	0.025/0.018	P 10
TPCS8004	π-MOS Ⅴ	TSSOP-8	200	1.3	0.8	P 10
TPCS8101	U-MOSⅡ	TSSOP-8	−20	−6	0.02	P 10
TPCS8102	U-MOSⅡ	TSSOP-8	−30	−6	0.025	P 10
TPCS8104	U-MOSⅣ	TSSOP-8	−30	−11	0.012	P 10
TPCS8204	U-MOSⅢ	TSSOP-8	20	6	0.017	P 10
TPCS8205	U-MOSⅡ	TSSOP-8	20	5	0.045	P 10
TPCS8208	U-MOSⅢ	TSSOP-8	20	6	0.017	P 10
TPCS8209	U-MOSⅢ	TSSOP-8	20	5	0.03	P 10
TPCS8210	U-MOSⅢ	TSSOP-8	20	5	0.03	P 10
TPCS8211	U-MOSⅢ	TSSOP-8	20	6	0.024	P 10
TPCS8212	U-MOSⅢ	TSSOP-8	20	6	0.024	P 10
TPCS8302	U-MOSⅢ	TSSOP-8	−20	−5	0.035	P 10
TPCF8001	U-MOSⅢ	VS-8	30	6	0.032	P 13
TPCF8101	U-MOSⅢ	VS-8	−12	−6	0.028	P 13
TPCF8102	U-MOSⅢ	VS-8	−20	−6	0.03	P 13
TPCF8103	U-MOSⅢ	VS-8	−20	−2.7	0.11	P 13
TPCF8104	U-MOSⅢ	VS-8	−30	−6	0.038	P 13
TPCF8201	U-MOSⅢ	VS-8	20	3	0.049	P 13
TPCF8301	U-MOSⅢ	VS-8	−20	−2.7	0.11	P 13
TPCF8302	U-MOSⅣ	VS-8	−20	−3	0.063	P 13
TPCF8401	U-MOSⅢ	VS-8	1.8 to 8	2.5	0.11	P 13
TPCF8402	U-MOSⅣ/U-MOSⅢ	VS-8	−30/30	−1.8/2.3	0.105/0.077	P 13
TPCF8A01	U-MOSⅢ	VS-8	20	3	0.049	P 13
TPCF8B01	U-MOSⅢ	VS-8	−20	−2.7	0.11	P 13
TPCP8402	U-MOSⅣ/U-MOSⅢ	PS-8	−30/30	−3.4/4.2	0.105/0.077	P 13

Power MOSFET Superseded Products

The product number in the left-hand column below are soon to be superseded. When ordering, please choose from among the recommended products in the right-hand column.

Superseded Products					Recommended Replacement Products				
Product No.	Electrical Characteristics			Package	Recommended Replacement Products	Electrical Characteristics			Package
	V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ Max (Ω)			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ Max (Ω)	
2SJ238	−60	−1	0.85	PW-MINI	**2SJ360**	−60	−1	0.73	PW-MINI
2SJ239	−60	−5	0.25	PW-MOLD	**2SJ377**	−60	−5	0.19	PW-MOLD
2SJ240	−60	−20	0.045	TO-220NIS	**2SJ349**	−60	−20	0.045	TO-220NIS
2SJ241	−60	−20	0.045	TO-220FL/SM	**2SJ401**	−60	−20	0.045	TO-220FL/SM
2SK386	450	10	0.7	TO-3P (L)	**2SK2698**	500	15	0.4	TO-3P (N)
2SK447	250	15	0.24	TO-3P (L)	**2SK2508**	250	13	0.25	TO-220NIS
2SK537	900	1	9	TO-220AB	**2SK2733**	900	1	9	TO-220AB
2SK538	900	3	4.5	TO-3P (N)	**2SK2719**	900	3	4.5	TO-3P (N)
2SK791	850	3	4.5	TO-220AB	**2SK2608**	900	3	4.3	TO-220AB
2SK792	900	3	4.5	TO-220AB	**2SK2608**	900	3	4.3	TO-220AB
2SK794	900	5	2.5	TO-3P (N)	**2SK2610**	900	5	2.5	TO-3P (N)
2SK850	100	35	0.06	TO-3P (N)	**2SK2466**	100	30	0.046	TO-220NIS
2SK851	200	30	0.085	TO-3P (N)	**2SK2967**	250	30	0.07	TO-3P (N)
2SK942	60	25	0.046	TO-220AB	**2SK2232**	60	25	0.046	TO-220NIS
2SK943	60	25	0.046	TO-220NIS	**2SK2232**	60	25	0.046	TO-220NIS
2SK945	400	1	5	PW-MOLD	**2SK2599**	500	2	3	TPS
2SK1078	60	0.8	0.55	PW-MINI	**2SK2615**	60	2	0.37	PW-MINI
2SK1117	600	6	1.25	TO-220AB	**2SK2544**	600	6	1.25	TO-220AB
2SK1118	600	6	1.25	TO-220NIS	**2SK2545**	600	6	1.25	TO-220NIS
2SK1349	100	25	0.058	TO-220NIS	**2SK2391**	100	20	0.085	TO-220NIS
2SK1356	900	3	4.3	TO-220NIS	**2SK2700**	900	3	4.3	TO-220NIS
2SK1357	900	5	2.8	TO-3P (N)	**2SK2610**	900	5	2.5	TO-3P (N)
2SK1358	900	9	1.4	TO-3P (N)	**2SK2611**	900	9	1.4	TO-3P (N)
2SK1363	900	8	1.4	TO-3P (N) IS	**2SK2847**	900	8	1.4	TO-3P (N) IS
2SK1377	400	5.5	1.2	TO-220NIS	**2SK2679**	400	5.5	1.2	TO-220NIS
2SK1488	500	10	1.0	TO-3P (N)	**2SK2601**	500	10	1.0	TO-3P (N)
2SK1542	60	45	0.020	TO-220AB	**2SK2376**	60	45	0.017	TO-220FL/SM
2SK1603	900	2.5	6.4	TO-220NIS	**2SK2718**	900	2.5	6.4	TO-220NIS
2SK1641	250	20	0.23	TO-3P (N)	**2SK2993**	250	20	0.11	TO-220FL/SM
2SK1642	400	9	0.55	TO-220NIS	**2SK2952**	400	8.5	0.55	TO-220NIS
2SK1643	900	5	2.8	TO-220AB	**2SK2717**	900	5	2.5	TO-220NIS
2SK1651	500	8	1	TO-3P (N) IS	**2SK2601**	500	10	1	TO-3P (N)
2SK1653	60	45	0.020	TO-220NIS	**2SK2312**	60	45	0.017	TO-220NIS
2SK1692	900	7	2.0	TO-3P (N)	**2SK2749**	900	7	2.0	TO-3P (N)
2SK1717	60	2	0.37	PW-MINI	**2SK2615**	60	2	0.37	PW-MINI
2SK1722	500	5	1.5	TO-220FL/SM	**2SK2991**	500	5	1.5	TO-220FL/SM
2SK1723	600	12	0.65	TO-3P (N)	**2SK2699**	600	12	0.65	TO-3P (N)
2SK1745	500	18	0.36	TO-3P (N)	**2SK2837**	500	20	0.27	TO-3P (N)
2SK1766	250	10	0.6	TO-220NIS	**2SK2417**	250	7.5	0.5	TO-220NIS
2SK1792	60	45	0.02	TO-220FL/SM	**2SK2376**	60	45	0.017	TO-220FL/SM
2SK1858	800	3	5.0	TO-220FL/SM	**2SK2883**	800	3	3.6	TO-220FL/SM
2SK1927	100	15	0.1	TO-220FL/SM	**2SK2789**	100	27	0.85	TO-220FL/SM
2SK1928	100	27	0.085	TO-220FL/SM	**2SK2789**	100	27	0.85	TO-220FL/SM
2SK2039	900	5	2.5	TO-3P (N)	**2SK2610**	900	5	2.5	TO-3P (N)
2SK2056	900	4	2.4	TO-220NIS	**2SK2605**	800	5	2.2	TO-220NIS
2SK2057	500	20	0.34	TO-3P (N)	**2SK2837**	500	20	0.27	TO-3P (N)
2SK2077	800	7	1.7	TO-3P (N)	**2SK2746**	800	7	1.7	TO-3P (N)
2SK2078	800	9	1.2	TO-3P (N)	**2SK2607**	800	9	1.2	TO-3P (N)

Superseded Products					Recommended Replacement Products				
Product No.	Electrical Characteristics			Package	Product No.	Electrical Characteristics			Package
	V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ Max(Ω)			V_{DSS} (V)	I_D (A)	$R_{DS(ON)}$ Max(Ω)	
2SK2107	200	18	0.18	TO-220FL/SM	**2SK2401**	200	15	0.18	TO-220FL/SM
2SK2150	500	15	0.4	TO-3P (N)	**2SK2698**	500	15	0.4	TO-3P (N)
2SK2236	500	5	1.6	TO-220NIS	**2SK2662**	500	5	1.5	TO-220NIS
2SK2237	500	7	0.8	TO-220NIS	**2SK2543**	500	8	0.85	TO-220NIS
2SK2320	800	8.5	1.2	TO-3P (N) IS	**2SK2607**	800	9	1.2	TO-3P (N)
2SK2351	600	6	1.25	TO-220AB	**2SK2544**	600	6	1.25	TO-220AB
2SK2352	600	6	1.25	TO-220NIS	**2SK2545**	600	6	1.25	TO-220NIS

Power MOSFET Final-Phase and Discontinued Products

POWER MOSFETs

(1) Final-Phase Products

Product No.	Recommended Replacement Products
2SJ147	**2SJ304**
2SK385	**2SK2698**
2SK387	**2SK2882**
2SK388	**2SK2508**
2SK525	**2SK2382**
2SK526	**2SK2417**
2SK528	**2SK2662**
2SK529	**2SK2662**
2SK530	**2SK2662**
2SK531	**2SK2662**
2SK532	**2SK2232**
2SK539	**2SK2610**

Product No.	Recommended Replacement Products
2SK578	**2SK2882**
2SK944	**2SK2967**
2SK1347	**2SK2314**
2SK1362	**2SK2610**
2SK1378	**2SK2841**
2SK1600	**2SK2603**
2SK1652	**2SK2698**
2SK1720	**2SK2266**
2SK1769	**2SK2599**
2SK1854	**2SK2952**
2SK1856	**2SK2698**
2SK1864	**2SK2776**

Product No.	Recommended Replacement Products
2SK1865	**2SK2776**
2SK1882	**2SK2232**
2SK1915	**2SK2777**
2SK1997	**2SK2385**
2SK1998	**2SK2233**
2SK2387	**2SK2542**
2SK2388	**2SK2750**
TPC8002	**TPC8014**
TPC8005-H	**TPC8010-H**
TPC8007-H	**TPC8009-H**
TPC8102	**TPC8105-H**
TPC8103	**TPC8111/TPC8108**
TPC8106-H	**TPC8109**
TPC8201	**TPC8209**
TPC8202	**TPC8208**
TPC8204	**TPC8207**
TPCS8201	**TPCS8209**
TPCS8203	**TPCS8211**
TPCS8206	**TPCS8210**
TPCS8207	**TPCS8212**

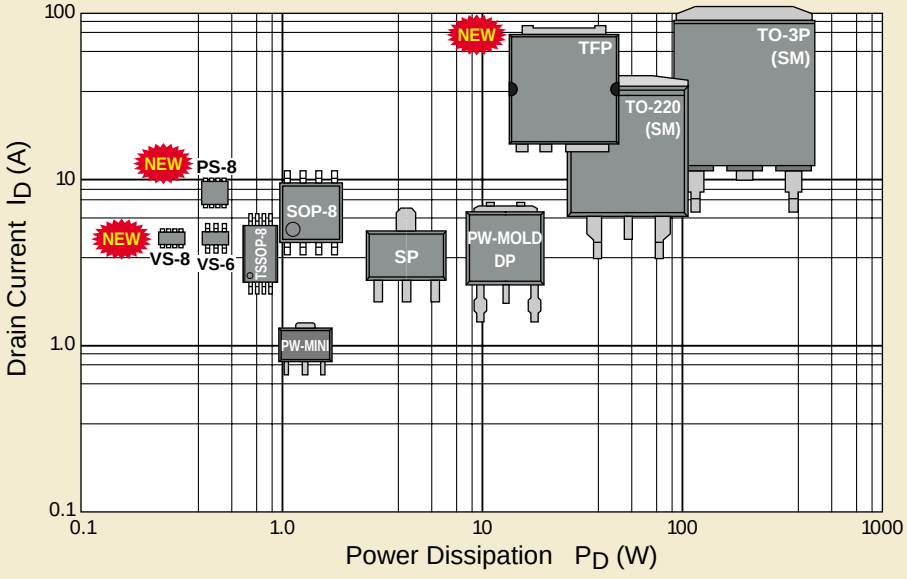
(2) Discontinued Products

Product No.	Recommended Replacement Products
2SJ91	2SJ200
2SJ92	2SJ200
2SJ123	2SJ304
2SJ124	2SJ304
2SJ126	2SJ304
2SJ183	2SJ377
2SJ224	2SJ312
2SK271	2SK1529
2SK272	2SK1529
2SK324	2SK2698
2SK325	2SK2698
2SK355	2SK387
2SK356	2SK388
2SK357	2SK2381
2SK358	2SK2417
2SK405	2SK1529
2SK417	2SK2232
2SK418	2SK2662
2SK419	2SK2662
2SK420	2SK2662
2SK421	2SK2662
2SK422	2SK2961
2SK423	2SK941
2SK442	2SK2232
2SK527	2SK2232
2SK568	—
2SK572	—
2SK573	2SK1641
2SK643	2SK2601
2SK644	2SK2601
2SK672	2SK2232
2SK673	2SK2232
2SK674	2SK2232
2SK678	2SK2698
2SK693	2SK2698
2SK694	2SK2698
2SK708	2SK2698
2SK788	2SK2698
2SK789	2SK2698
2SK790	2SK2698
2SK793	2SK2610
2SK849	2SK2233
2SK856	2SK2385
2SK857	2SK2233
2SK858	2SK2750
2SK888	2SK2350
2SK889	2SK2314
2SK890	2SK2350
2SK891	2SK2382
2SK892	2SK2662
2SK893	2SK2386
2SK894	2SK2542
2SK895	2SK2601

Product No.	Recommended Replacement Products
2SK896	2SK2695
2SK1029	2SK2698
2SK1112	2SK2231
2SK1113	2SK2201
2SK1114	2SK2232
2SK1115	2SK2232
2SK1116	2SK2232
2SK1124	2SK2233
2SK1213	2SK2602
2SK1251	2SK2231
2SK1252	2SK2201
2SK1333	2SK2698
2SK1344	2SK2232
2SK1346	2SK2232
2SK1348	2SK2391
2SK1350	2SK2382
2SK1351	2SK2662
2SK1352	2SK2543
2SK1379	2SK2173
2SK1380	2SK2267
2SK1487	2SK2601
2SK1513	2SK2601
2SK1531	2SK2698
2SK1574	2SK2542
2SK1601	2SK2608
2SK1602	2SK2603
2SK1649	2SK2610
2SK1650	2SK2719
2SK1721	2SK2991
2SK1746	2SK2865
2SK1767	2SK2750
2SK1768	2SK2614
2SK1805	2SK2543
2SK1855	2SK2698
2SK1879	2SK2398
2SK1913	2SK2750
2SK1929	2SK2884
2SK2038	2SK2604
2SK2088	2SK2401
2SK2089	2SK2884
2SK2149	2SK2601
2SK2222	2SK2604
2SK2319	2SK2746
2SK2386	2SK2661
2SK2402	2SK2750

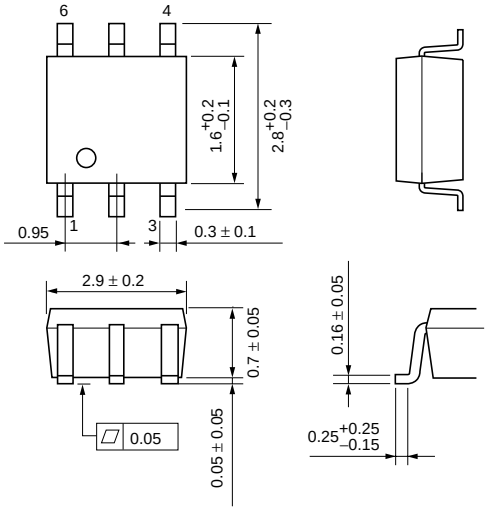
1. Compact Surface-Mount Packages

To meet requirements for compact and thin equipment, Toshiba offers various packages with power dissipation of 1.0 to 150 W and drain current of 1 to 50 A.
In addition, we offer devices housed in the SOP-8 and TSSOP-8 packages. These devices consist of input/output isolated TFP Series MOSFETs and trench MOSFETs with ultra-low ON-resistance.

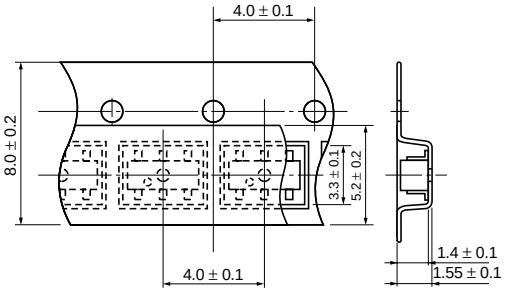


● VS-6

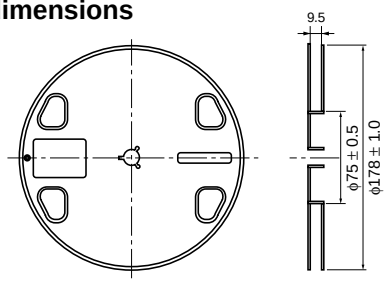
Unit: mm



Tape dimensions



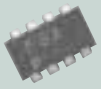
Reel dimensions

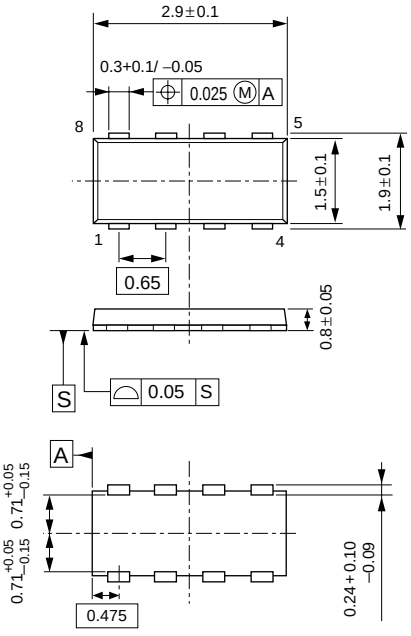


Packing quantity
3000pcs / reel

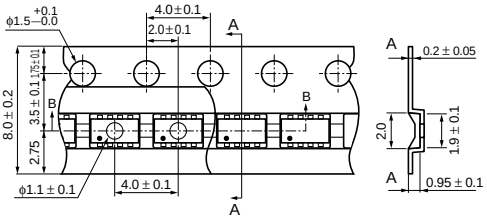
● VS-8

Unit: mm

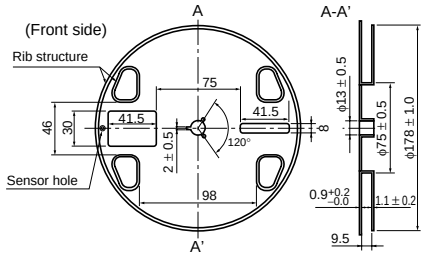




Tape dimensions



Reel dimensions

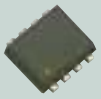


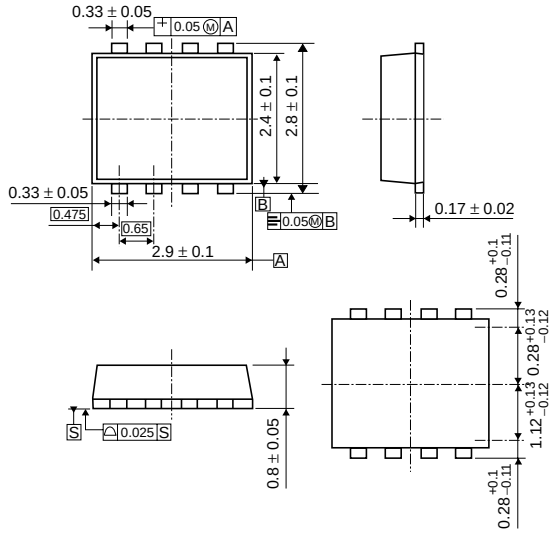
Packing quantity

4000pcs / reel

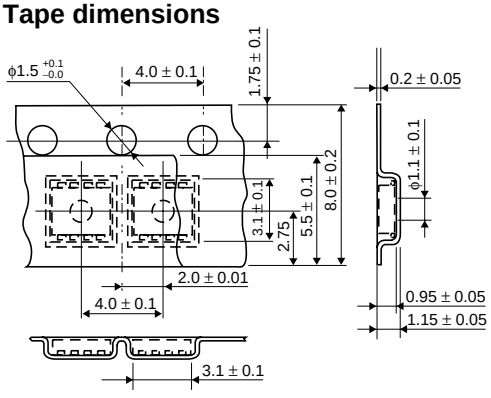
● PS-8

Unit: mm

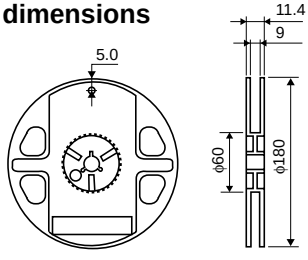




Tape dimensions



Reel dimensions

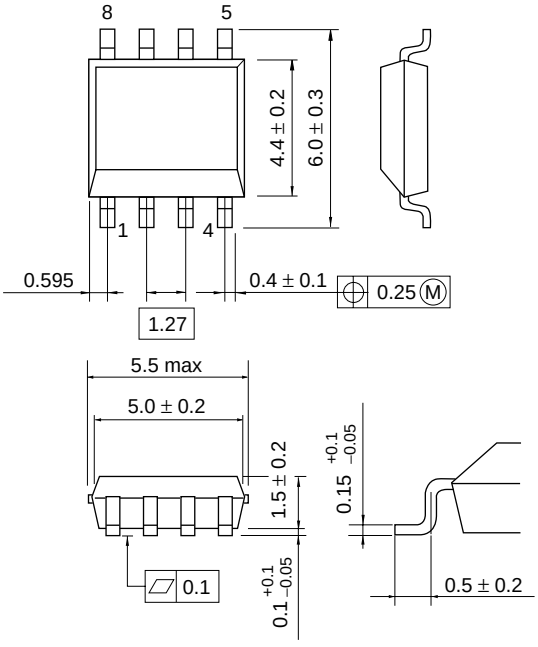


Packing quantity

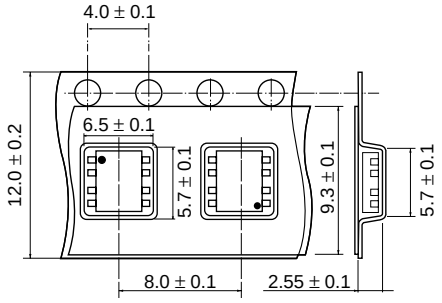
3000pcs / reel

● SOP-8

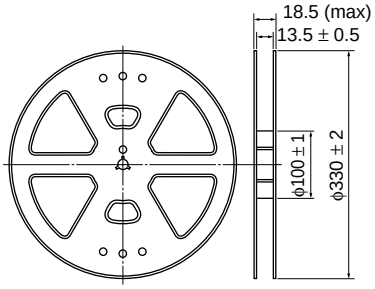
Unit: mm



Tape dimensions



Reel dimensions

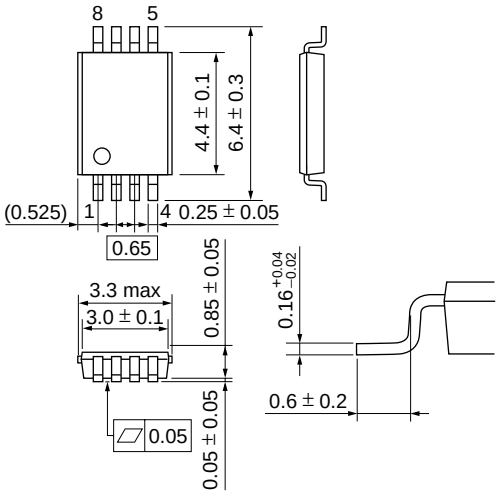


Packing quantity

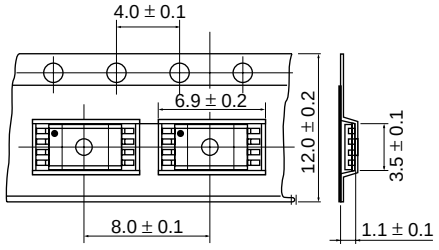
3000pcs / reel

● TSSOP-8

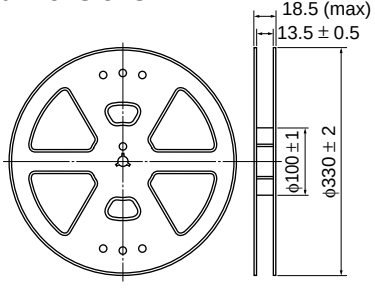
Unit: mm



Tape dimensions



Reel dimensions

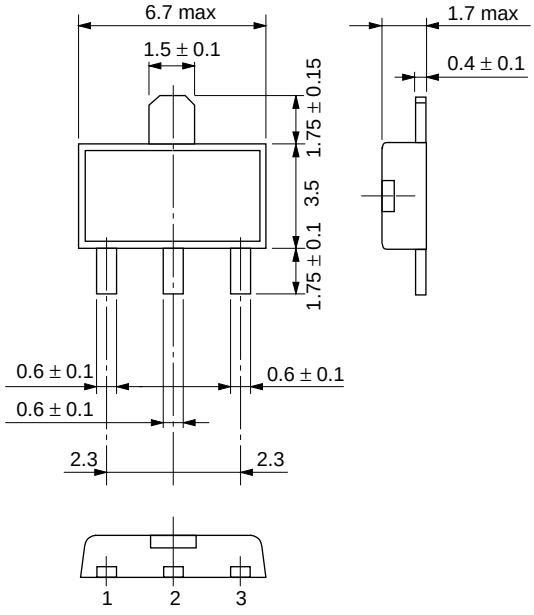


Packing quantity

3000pcs / reel

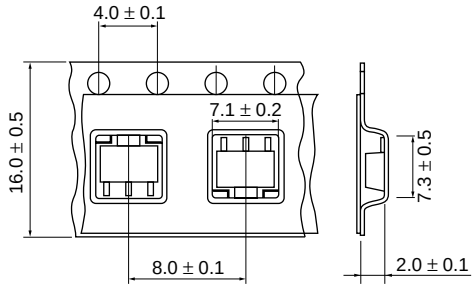
● SP

Unit: mm

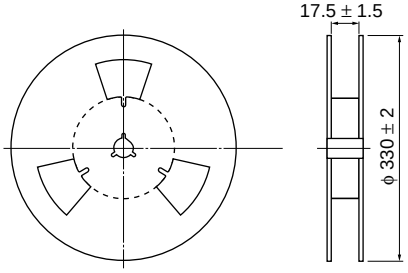


1. Gate
2. Drain (heat sink)
3. Source

Tape dimensions



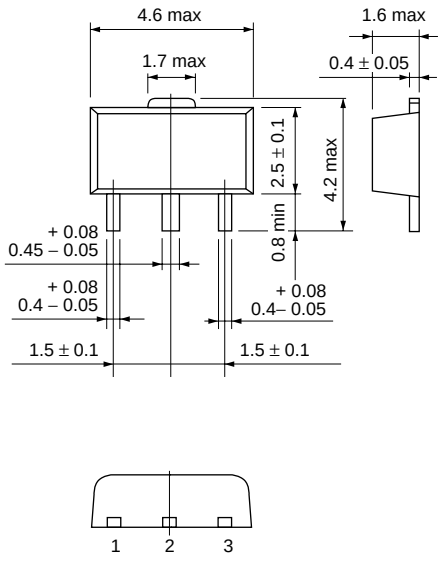
Reel dimensions



Packing quantity
3000pcs / reel

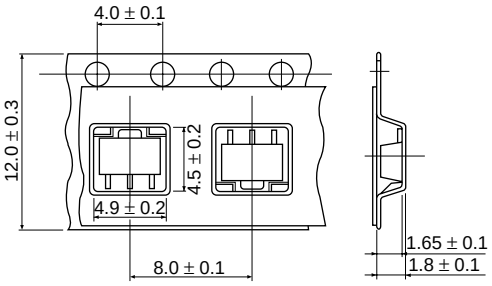
● PW-MINI

Unit: mm

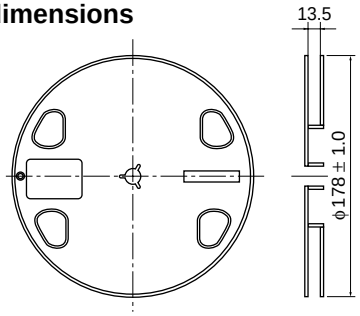


1. Gate
2. Drain (heat sink)
3. Source

Tape dimensions



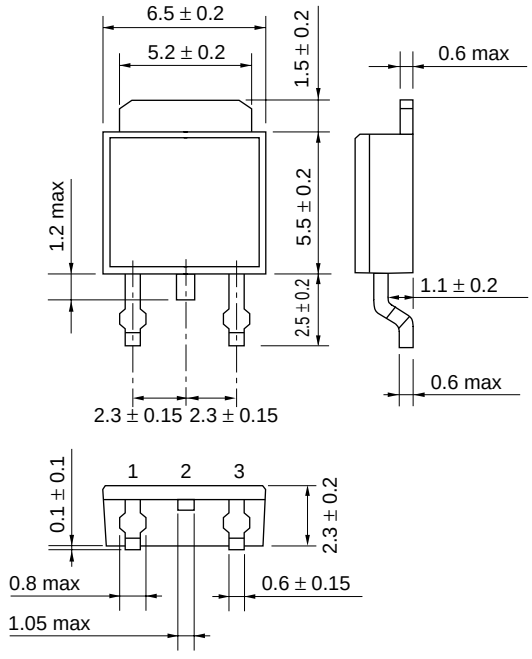
Reel dimensions



Packing quantity
1000pcs / reel

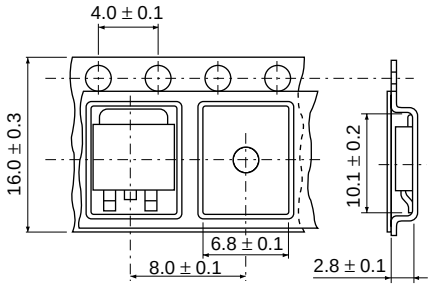
● PW-MOLD

Unit: mm

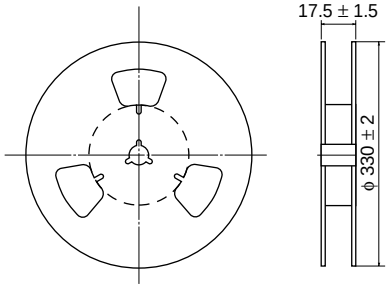


1. Gate
2. Drain (heat sink)
3. Source

Tape dimensions



Reel dimensions

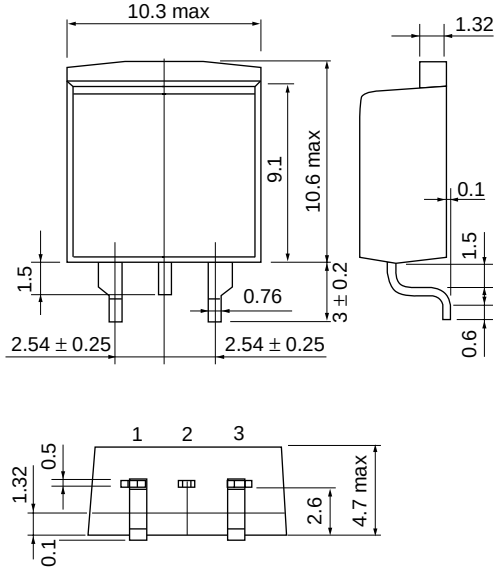


Packing quantity

700pcs / reel

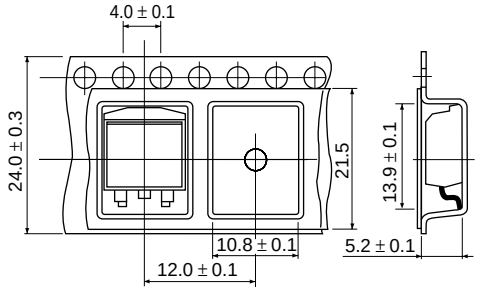
● TO-220SM

Unit: mm

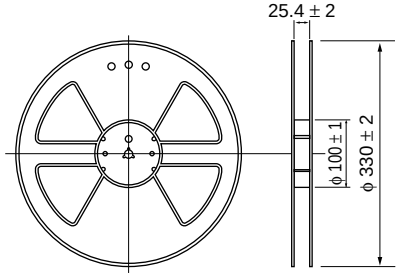


1. Gate
2. Drain (heat sink)
3. Source

Tape dimensions



Reel dimensions

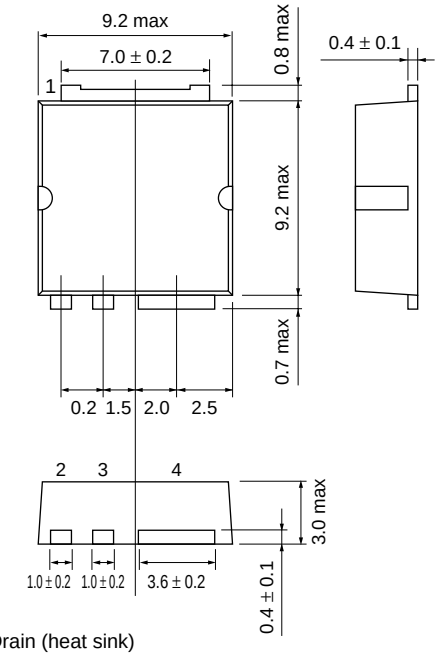


Packing quantity

1000pcs / reel

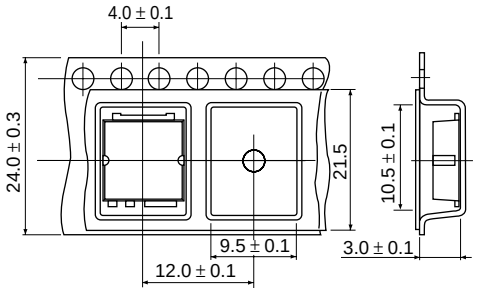
● TFP

Unit: mm

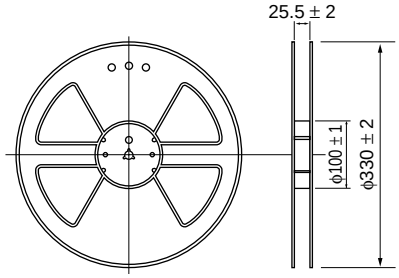


1. Drain (heat sink)
2. Gate
3. Source 1
4. Source 2

Tape dimensions



Reel dimensions

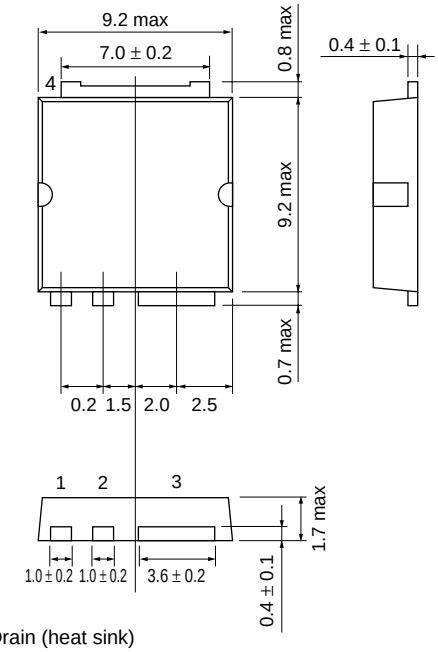


Packing quantity

1500pcs / reel

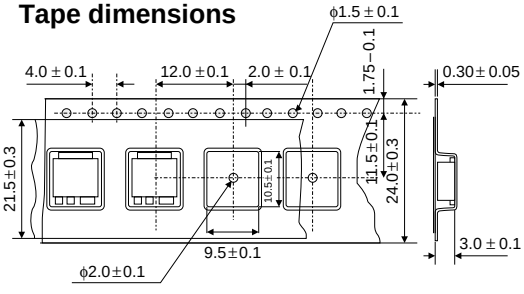
● Slim TFP

Unit: mm

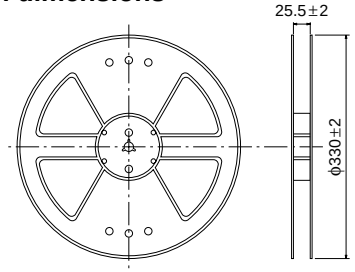


1. Drain (heat sink)
2. Gate
3. Source 1
4. Source 2

Tape dimensions



Reel dimensions

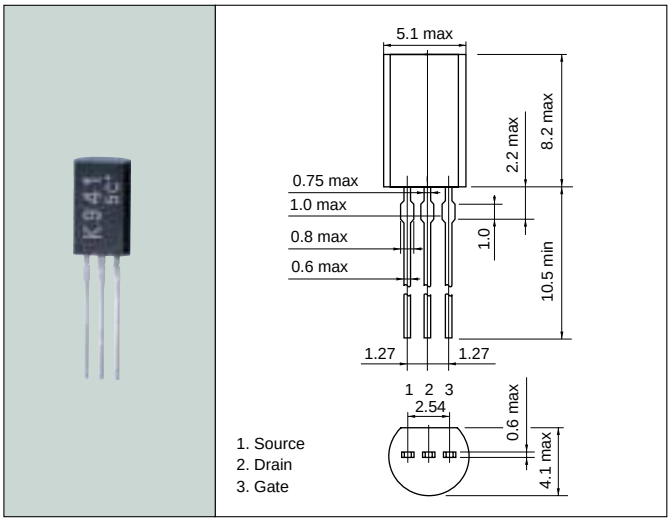


Packing quantity

1500pcs / reel

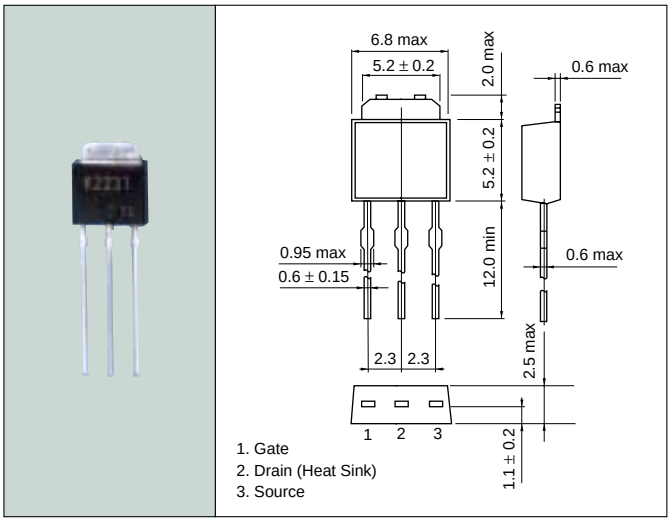
2. Through-Hole Package

● TO92-MOD

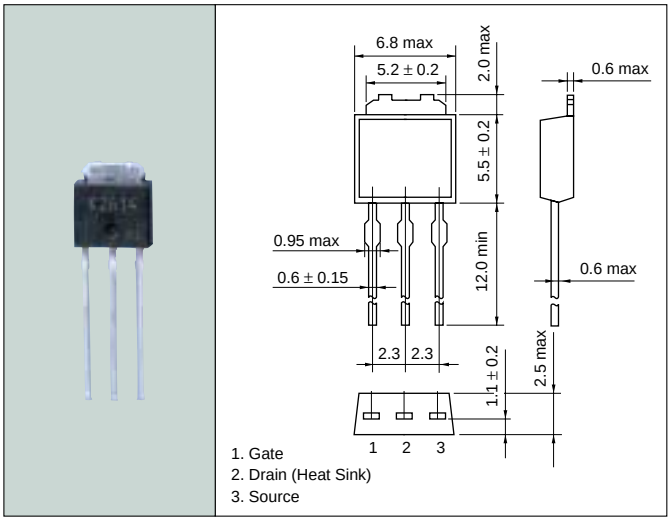


● PW-MOLD (Straight)

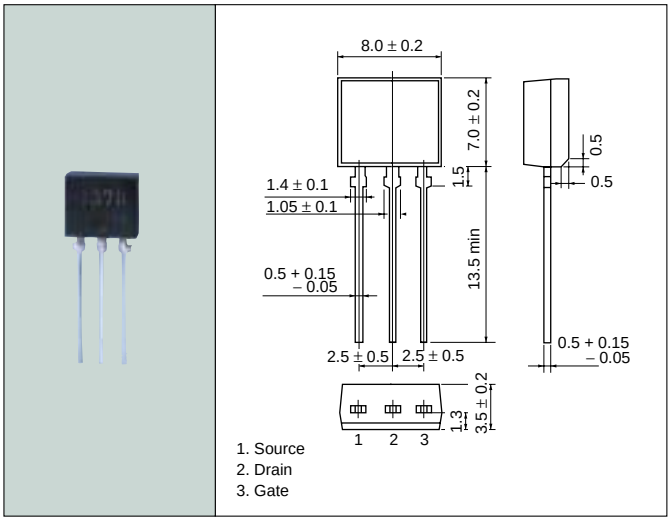
Unit: mm



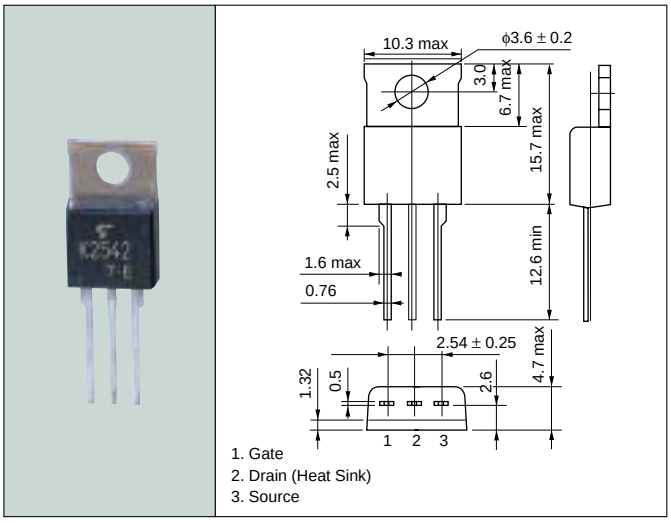
● DP (Straight)



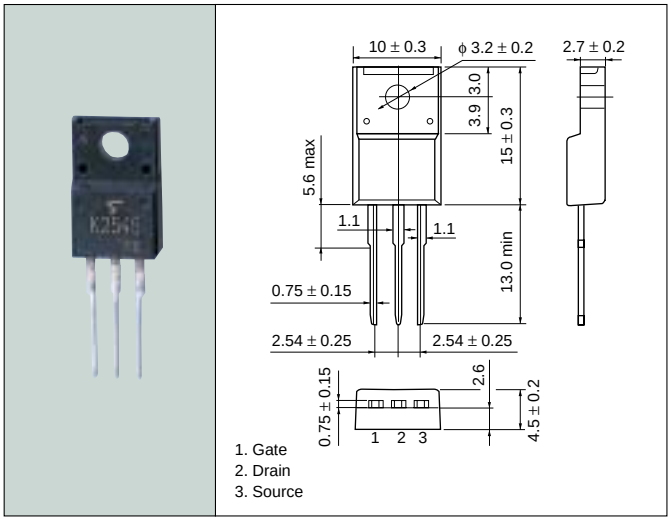
● TPS



● TO-220AB



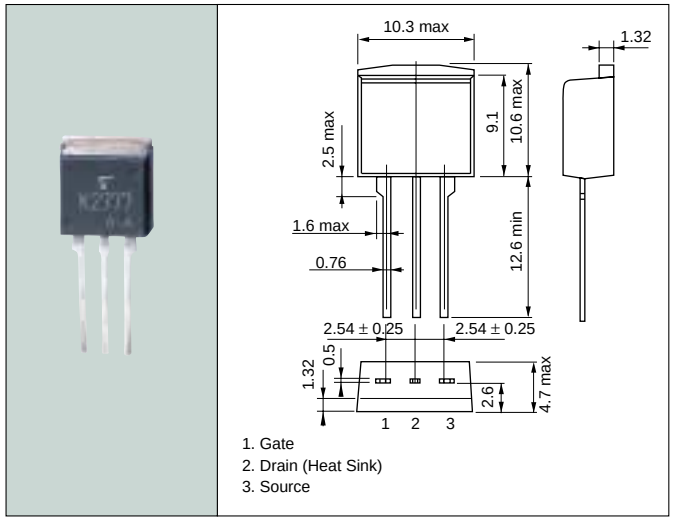
● TO-220(NIS)



1. Gate
2. Drain
3. Source

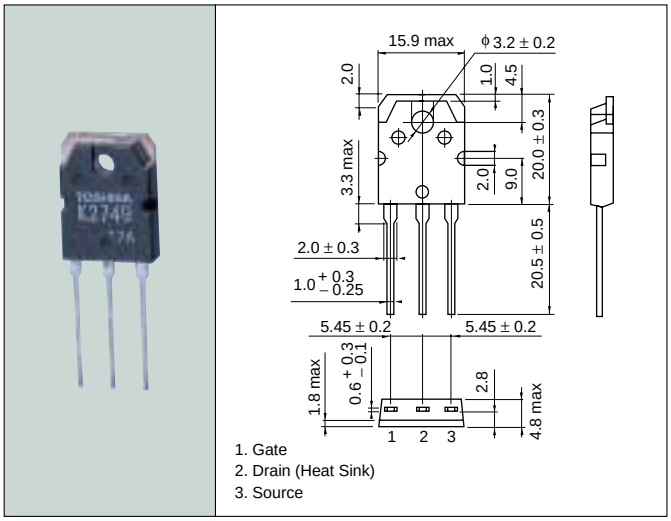
● TO-220FL

Unit: mm



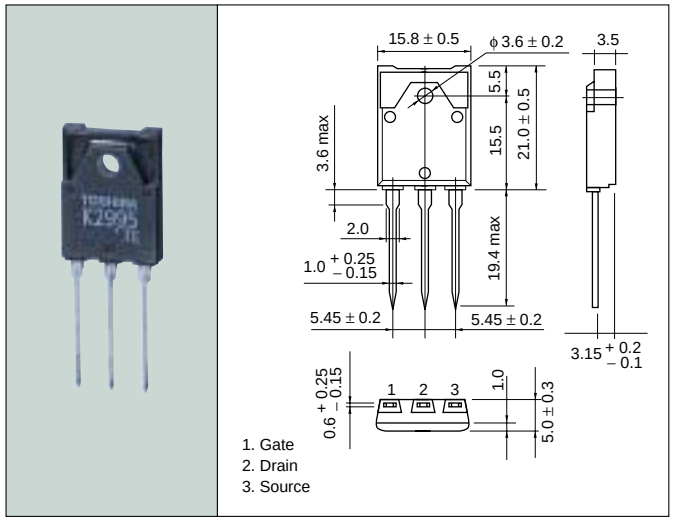
1. Gate
2. Drain (Heat Sink)
3. Source

● TO-3P(N)



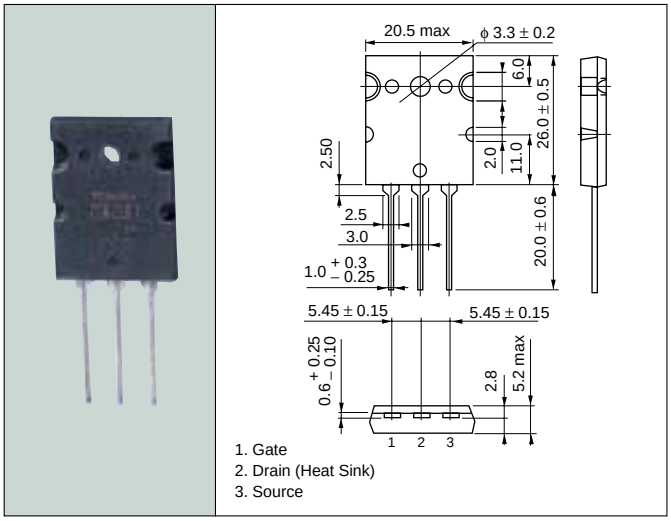
1. Gate
2. Drain (Heat Sink)
3. Source

● TO-3P(N)IS



1. Gate
2. Drain
3. Source

● TO-3P(L)

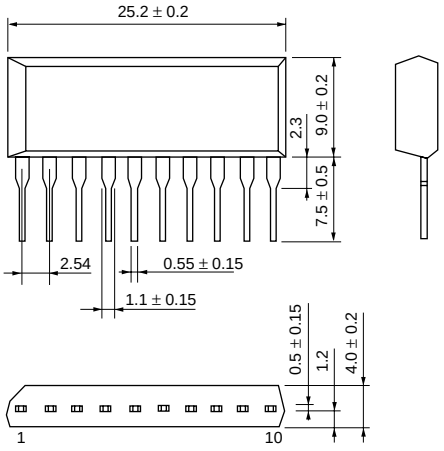


1. Gate
2. Drain (Heat Sink)
3. Source

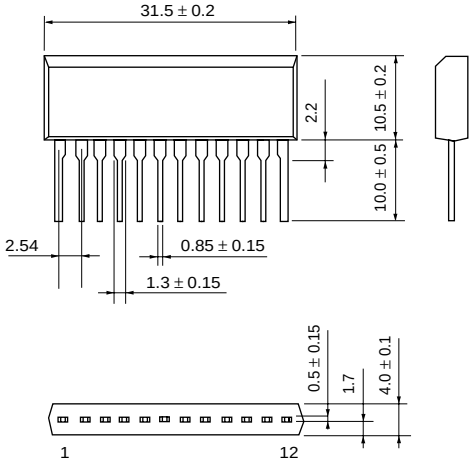
3. Power MOSFET Modules

● S-10M

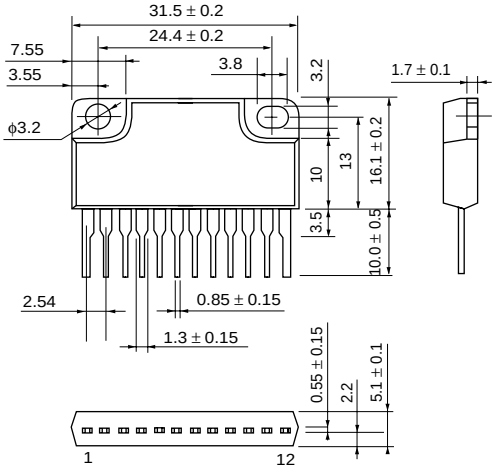
Unit: mm

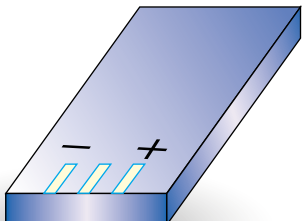


● S-12M



● F-12M





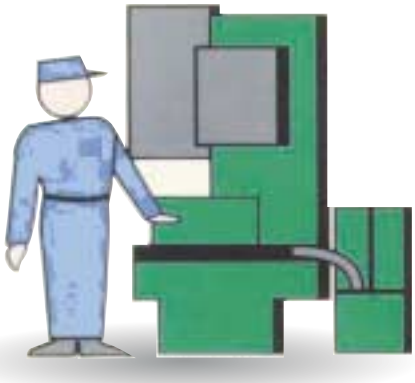
Secondary battery

Cellular' phones and other portable devices

Portable devices

The MOSFET's low-voltage drive and low power dissipation characteristics allow the construction of equipment which is slim and compact.

Superior performance and a meet needs in various



Switching power supplies

High-speed power switching

Since MOSFETs can operate at high frequencies (200 kHz~500 kHz), they can be used for designing high-precision, high-speed manufacturing equipment.

Notebook computer power supplies

The MOSFET's excellent high-speed characteristics enable the manufacture of products with high levels of efficiency and reliability.

Small, light and slim

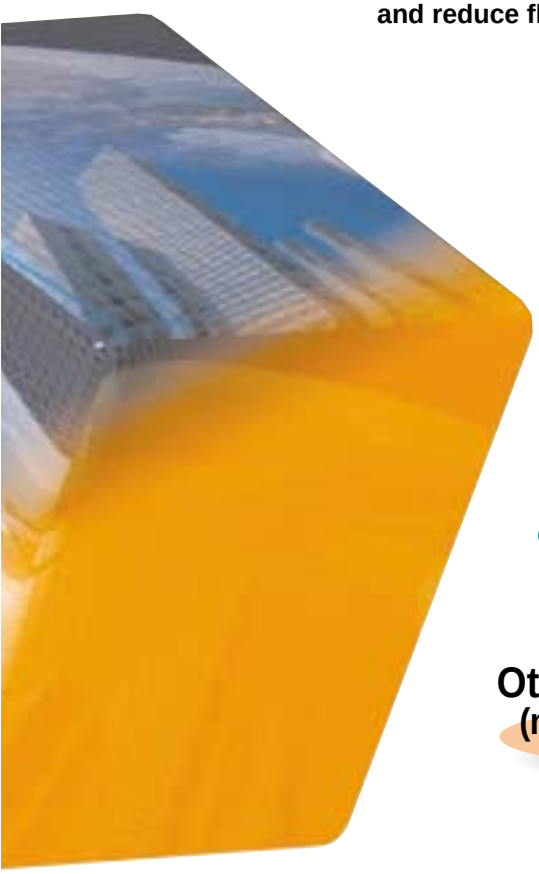
Small, light, low power loss

The MOSFET's low-voltage drive and low power dissipation characteristics allow the construction of equipment which is slim and compact.

Fluorescent light inverters

Inverter circuits which incorporate MOSFETs can be used to increase the brightness of lighting systems and reduce flickering.

Bright, high level of efficiency



Automobiles

The MOSFET's low power dissipation allows the construction of highly efficient equipment. In addition, since MOSFETs do not require a heat sink, equipment which incorporates them can be slim and compact.

Circuit simplification, miniaturization, high reliability

broad product line combine to application fields.

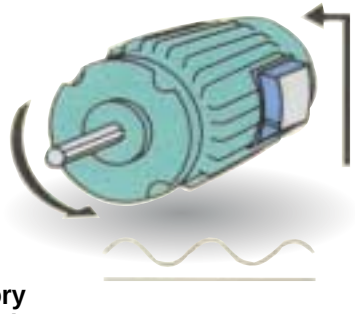
Other products (monitors, toys)

Ultra-high-resolution images

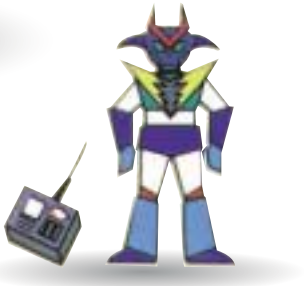
The use of MOSFETs in monitors enables the display of high-definition images.

Motor controls

MOSFETs' excellent high-speed characteristics allow them to be used to regulate motors at audio frequencies (20 kHz~30 kHz). This yields improved regulatory performance and reduced levels of ambient noise.



Reduced noise pollution and improved control performance



Small, highly efficient controls for toys

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