

3.0SMCJ5.0A ... 3.0SMCJ170CA SMD Transient Voltage Suppressor Diodes SMD Spannungs-Begrenzer-Dioden	P_{PPM} = 3000 W P_{M(AV)} = 6.0 W T_{jmax} = 150°C	V_{WM} = 5.0 ... 170 V V_{BR} = 6.8 ... 200 V
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Version 2018-01-23

~ SMC / ~ DO-214AB

Dimensions - Maße [mm]

Type = Part number. Cathode mark only at unidirectional types

Typ = Artikel-Nr. Kathoden-Markierung nur bei unidirektionalen Typen

Typical Applications

Over-voltage protection
 ESD protection
 Free-wheeling diodes
 Commercial grade ¹⁾

Features

Uni- and Bidirectional versions
 Peak pulse power of 3000 W (10/1000 µs waveform)
 Very fast response time
 Compliant to RoHS, REACH, Conflict Minerals ¹⁾



Mechanical Data ¹⁾

Taped and reeled 3000 / 13"
 Weight approx. 0.21 g
 Case material UL 94V-0
 Solder & assembly conditions 260°C/10s
 MSL = 1

Typische Anwendungen

Schutz gegen Überspannung
 ESD-Schutz
 Freilauf-Dioden
 Standardausführung ¹⁾

Besonderheiten

Uni- und Bidirektionale Versionen
 3000 W Impuls-Verlustleistung (10/1000 µs Strom-Impuls)
 Sehr schnelle Ansprechzeit
 Konform zu RoHS, REACH, Konfliktmineralien ¹⁾

Mechanische Daten ¹⁾

Gegurtet auf Rolle
 Gewicht ca.
 Gehäusematerial
 Löt- und Einbaubedingungen

For bidirectional types (suffix "C" or "CA"), electrical characteristics apply in both directions.
 Für bidirektionale Dioden (mit Suffix "C" oder "CA") gelten die elektrischen Werte in beiden Richtungen.

Maximum ratings ²⁾

Grenzwerte ²⁾

Peak pulse power dissipation (10/1000 µs waveform) Impuls-Verlustleistung (Strom-Impuls 10/1000 µs)		P _{PPM}	3000 W ³⁾
Steady state power dissipation – Verlustleistung im Dauerbetrieb	T _T = 75°C	P _{M(AV)}	6 W
Peak forward surge current Stoßstrom in Fluss-Richtung	Half sine-wave Sinus-Halbwellen 60 Hz (8.3 ms)	I _{FSM}	300 A ⁴⁾
Junction temperature – Sperrschichttemperatur Storage temperature – Lagerungstemperatur		T _j T _s	-50...+150°C -50...+150°C

Characteristics

Kennwerte

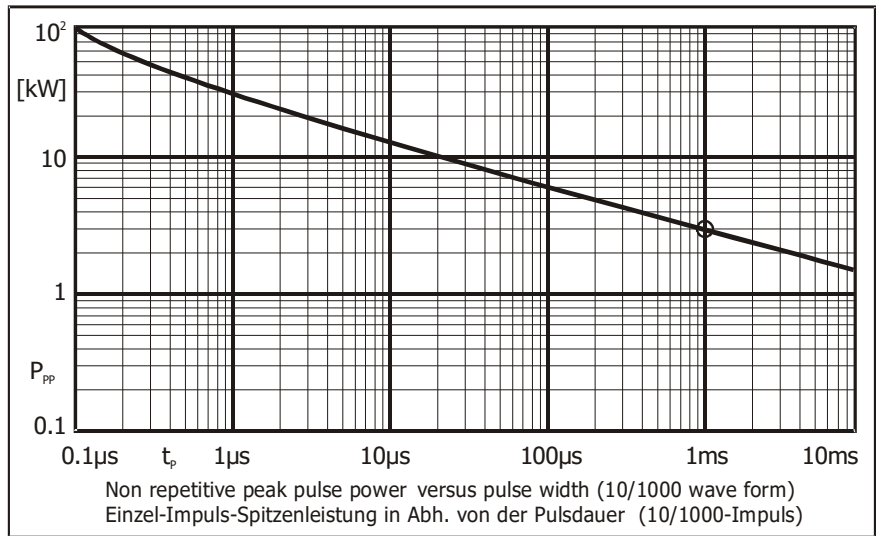
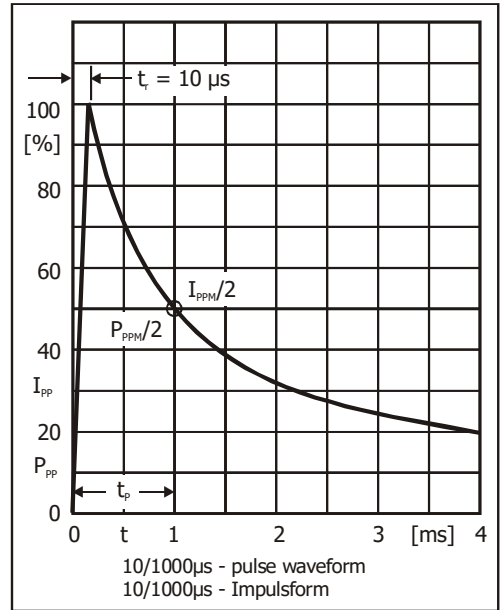
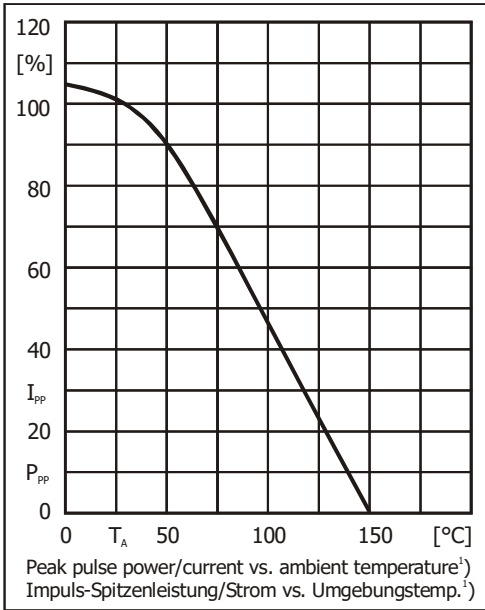
Max. instantaneous forward voltage Augenblickswert der Durchlass-Spannung	I _F = 25 A V _{BR} ≤ 200 V	V _F	< 3.0 V ⁴⁾
Thermal resistance junction to ambient – Wärmewiderstand Sperrschicht – Umgebung Thermal resistance junction to terminal – Wärmewiderstand Sperrschicht – Anschluss		R _{thA} R _{thT}	< 33 K/W ⁵⁾ < 10 K/W

- Please note the [detailed information on our website](#) or at the beginning of the data book
Bitte beachten Sie die [detaillierten Hinweise auf unserer Internetseite](#) bzw. am Anfang des Datenbuches
- T_A = 25°C unless otherwise specified – T_A = 25°C wenn nicht anders angegeben
- Non-repetitive pulse see curve I_{pp} = f (t) / P_{pp} = f (t)
Höchstzulässiger Spitzenwert eines einmaligen Impulses, siehe Kurve I_{pp} = f (t) / P_{pp} = f (t)
- Unidirectional diodes only – Nur für unidirektionale Dioden
- Mounted on P.C. board with 50 mm² copper pads at each terminal
Montage auf Leiterplatte mit 50 mm² Kupferbelag (Lötpad) an jedem Anschluss

Characteristics (T_j = 25°C)
Kennwerte (T_j = 25°C)

Type Typ		Stand-off voltage Sperrspannung	Max. rev. current Max. Sperrstrom at / bei V _{WM} ¹⁾	Breakdown voltage at I _T = 1 mA Abbruch-Spannung bei I _T = 1 mA *) I _T = 10 mA		Max. clamping voltage Max. Begrenzer-Spannung at / bei I _{PPM} (10/1000 μs)	
unidirectional	bidirectional	V _{WM} [V]	I _D [μA]	V _{BR} min [V]	V _{BR} max [V]	V _C [V]	I _{PPM} [A]
3.0SMCJ5.0A	3.0SMCJ5.0CA	5.0	800	6.4 *)	7.2 *)	9.2	326.0
3.0SMCJ6.0A	3.0SMCJ6.0CA	6.0	800	6.6 *)	7.4 *)	10.3	291.2
3.0SMCJ6.5A	3.0SMCJ6.5CA	6.5	500	7.2 *)	8.0 *)	11.2	267.8
3.0SMCJ7.0A	3.0SMCJ7.0CA	7.0	200	7.8 *)	8.6 *)	12.0	250.0
3.0SMCJ7.5A	3.0SMCJ7.5CA	7.5	100	8.3	9.2	12.9	232.5
3.0SMCJ8.0A	3.0SMCJ8.0CA	8.0	50	8.9	9.9	13.6	220.5
3.0SMCJ8.5A	3.0SMCJ8.5CA	8.5	20	9.4	10.4	14.4	208.3
3.0SMCJ9.0A	3.0SMCJ9.0CA	9.0	10	10.0	11.1	15.4	194.8
3.0SMCJ10A	3.0SMCJ10CA	10	5	11.1	12.3	17.0	176.4
3.0SMCJ11A	3.0SMCJ11CA	11	5	12.2	13.5	18.2	164.8
3.0SMCJ12A	3.0SMCJ12CA	12	5	13.3	14.8	19.9	150.7
3.0SMCJ13A	3.0SMCJ13CA	13	5	14.4	16.0	21.5	139.5
3.0SMCJ14A	3.0SMCJ14CA	14	5	15.6	17.3	23.2	129.3
3.0SMCJ15A	3.0SMCJ15CA	15	5	16.7	18.6	24.4	122.9
3.0SMCJ16A	3.0SMCJ16CA	16	5	17.8	19.8	26.0	115.3
3.0SMCJ17A	3.0SMCJ17CA	17	5	18.9	21.0	27.6	108.7
3.0SMCJ18A	3.0SMCJ18CA	18	5	20.0	22.2	29.2	102.7
3.0SMCJ20A	3.0SMCJ20CA	20	5	22.2	24.6	32.4	92.5
3.0SMCJ22A	3.0SMCJ22CA	22	5	24.4	27.1	35.5	84.5
3.0SMCJ24A	3.0SMCJ24CA	24	5	26.7	29.6	38.9	77.1
3.0SMCJ26A	3.0SMCJ26CA	26	5	28.9	32.1	42.1	71.2
3.0SMCJ28A	3.0SMCJ28CA	28	5	31.1	34.5	45.4	66.0
3.0SMCJ30A	3.0SMCJ30CA	30	5	33.3	36.9	48.4	61.9
3.0SMCJ33A	3.0SMCJ33CA	33	5	36.7	40.7	53.3	56.2
3.0SMCJ36A	3.0SMCJ36CA	36	5	40.0	44.4	58.1	51.6
3.0SMCJ40A	3.0SMCJ40CA	40	5	44.4	49.3	64.5	46.5
3.0SMCJ43A	3.0SMCJ43CA	43	5	47.8	53.1	69.4	43.2
3.0SMCJ45A	3.0SMCJ45CA	45	5	50.0	55.5	72.7	41.2
3.0SMCJ48A	3.0SMCJ48CA	48	5	53.3	59.2	77.4	38.7
3.0SMCJ51A	3.0SMCJ51CA	51	5	56.7	62.9	82.4	36.4
3.0SMCJ54A	3.0SMCJ54CA	54	5	60.0	66.6	87.1	34.4
3.0SMCJ58A	3.0SMCJ58CA	58	5	64.4	71.5	93.6	32.0
3.0SMCJ60A	3.0SMCJ60CA	60	5	66.7	74.0	96.8	30.9
3.0SMCJ64A	3.0SMCJ64CA	64	5	71.1	78.9	103	29.1
3.0SMCJ70A	3.0SMCJ70CA	70	5	77.8	86.4	113	26.5
3.0SMCJ75A	3.0SMCJ75CA	75	5	83.3	92.5	121	24.7
3.0SMCJ78A	3.0SMCJ78CA	78	5	86.7	96.2	126	23.8
3.0SMCJ85A	3.0SMCJ85CA	85	5	94.4	105	137	21.9
3.0SMCJ90A	3.0SMCJ90CA	90	5	100	111	146	20.5
3.0SMCJ100A	3.0SMCJ100CA	100	5	111	123	162	18.5
3.0SMCJ110A	3.0SMCJ110CA	110	5	122	135	177	16.9
3.0SMCJ120A	3.0SMCJ120CA	120	5	133	148	193	15.5
3.0SMCJ130A	3.0SMCJ130CA	130	5	144	160	209	14.3
3.0SMCJ150A	3.0SMCJ150CA	150	5	167	185	243	12.3
3.0SMCJ160A	3.0SMCJ160CA	160	5	178	198	259	11.5
3.0SMCJ170A	3.0SMCJ170CA	170	5	189	210	275	10.9

1 For bi-directional types having V_{WM} ≤ 10V, the reverse current limit is doubled
 Bidirektionale Typen mit V_{WM} ≤ 10V haben die doppelte Sperrstromgrenze



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Haftungsausschluss: Siehe Datenbuch Seite 2 oder [Internet](#)

¹ Mounted on P.C. board with 50 mm² copper pads at each terminal
 Montage auf Leiterplatte mit 50 mm² Kupferbelag (Lötpad) an jedem Anschluss