

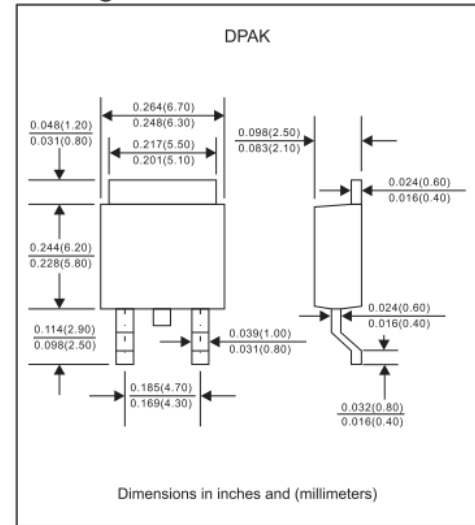
Features

- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
 - High surge capability.
 - Guardring for overvoltage protection.
 - Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
 - Suffix "-H" indicates Halogen-free part, ex.ECC1020Y-D-H.

Mechanical Data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-252 / DPAK
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
 - Mounting Position : Any
 - Weight : Approximated 0.34 gram

Package outline



Maximum ratings and Electrical Characteristics (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	SYMBOL	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I_D			10	A
Forward Surge Current	8.3ms single half sine-wave (JEDEC method)	I_{FSM}			150	A
Reverse Current	$V_R=V_{RRM}$ $T_J=25^{\circ}\text{C}$	I_R			0.5	mA
	$V_R=V_{RRM}$ $T_J=100^{\circ}\text{C}$				20	
Diode Junction Capacitance	$f=1\text{MHz}$ and applied 4V DC reverse voltage	C_J		700		pF
Storage temperature		T_{STG}	-65		+175	$^{\circ}\text{C}$



SYMBOLS	*1 V_{RRM} (V)	*2 V_{RRS} (V)	*3 V_R (V)	*4 V_F (V)	Operating Temperature $T_J(^{\circ}C)$
ECC1020Y-D	20	14	20	0.55	-55~+125
ECC1040Y-D	40	28	40		
ECC1045Y-D	45	31.5	45		
ECC1050Y-D	50	35	50	0.7	-55~+150
ECC1060Y-D	60	42	60		
ECC1080Y-D	80	56	80	0.85	
ECC10100Y-D	100	70	100		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage @ $I_F = 10.0A$

Rating and characteristic curves (ECC1020Y-D THRU ECC10100Y-D)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

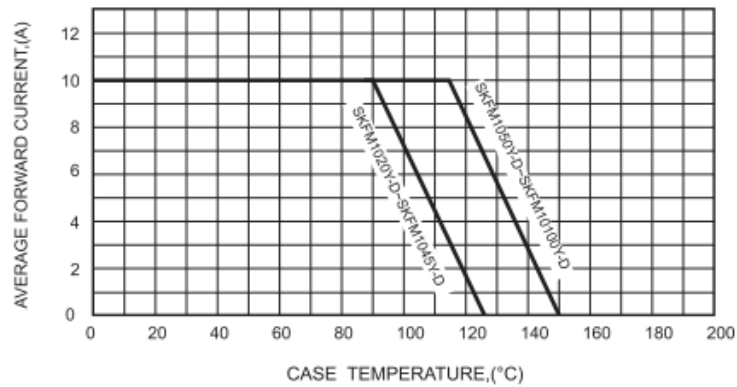


FIG.2-TYPICAL FORWARD CHARACTERISTICS

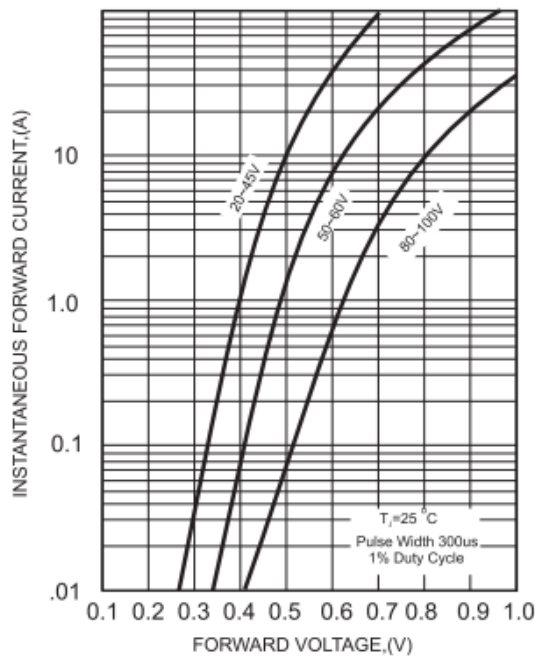


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

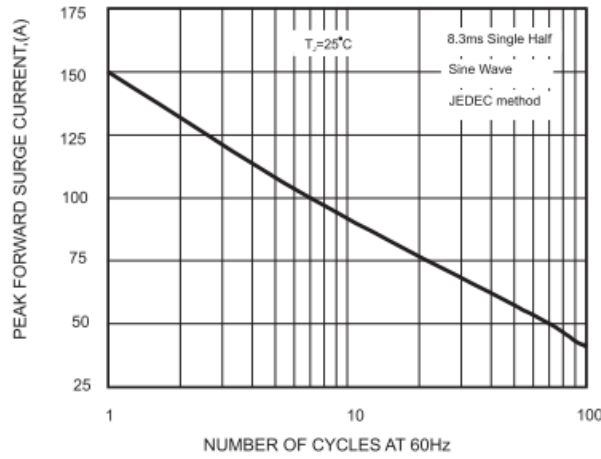


FIG.4- TYPICAL REVERSE CHARACTERISTICS

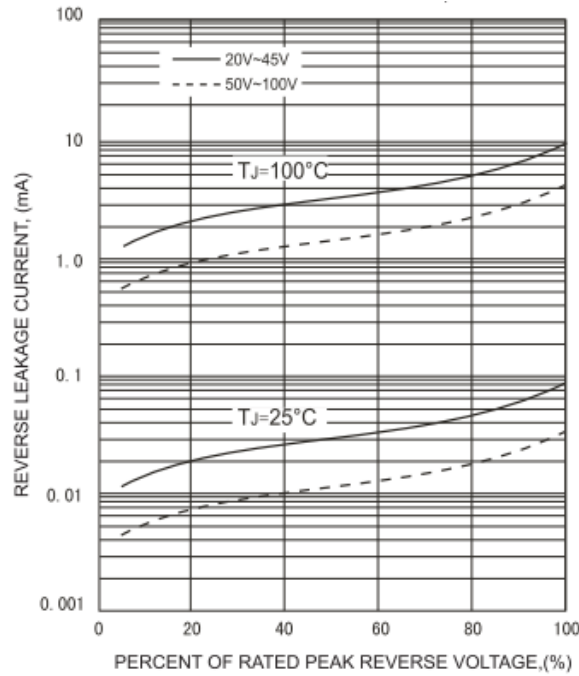
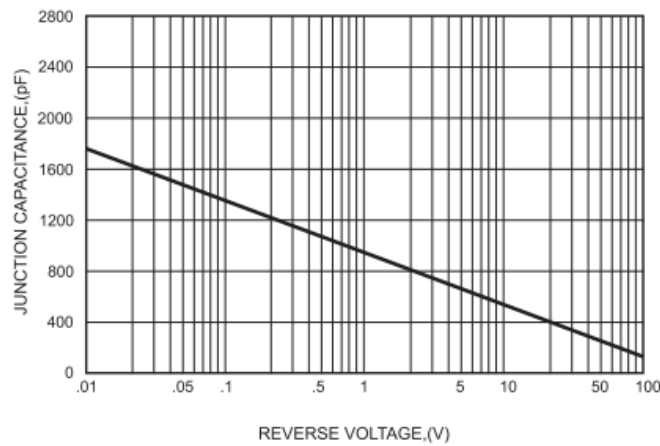
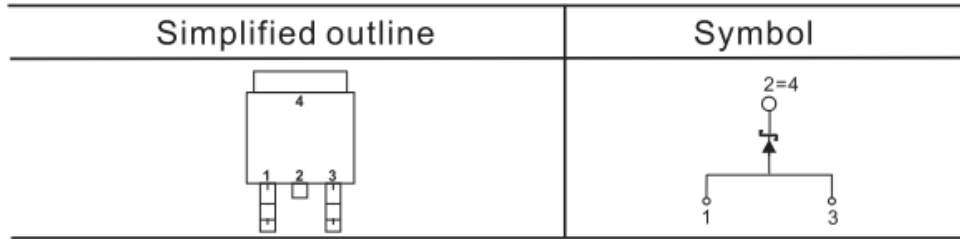


FIG.5-TYPICAL JUNCTION CAPACITANCE



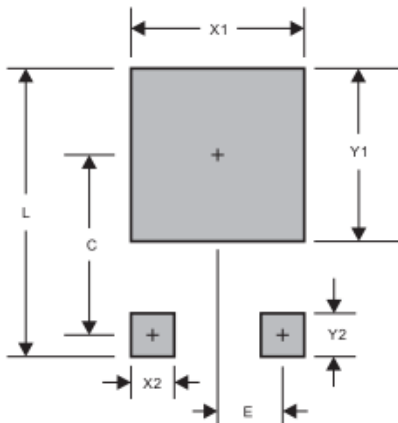
Pinning information



Marking

Part No	Marking Code
ECC1020Y-D	SK1020Y
ECC1040Y-D	SK1040Y
ECC1045Y-D	SK1045Y
ECC1050Y-D	SK1050Y
ECC1060Y-D	SK1060Y
ECC1080Y-D	SY1080Y
ECC10100Y-D	SK10100Y

Suggested solder pad layout



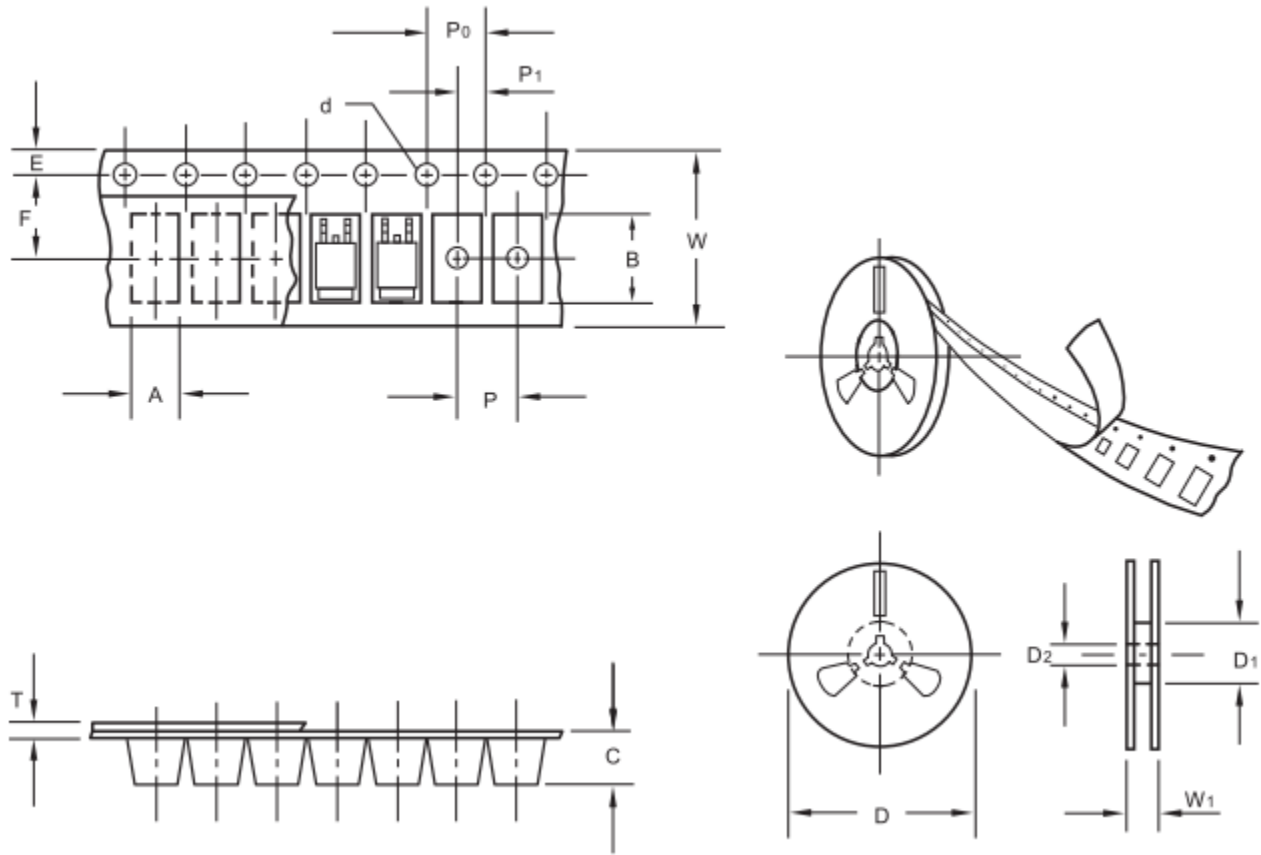
PACKAGE	DPAK
C	0.272(6.90)
E	0.091(2.30)
L	0.457(11.60)
X1	0.276(7.00)
X2	0.059(1.50)
Y1	0.276(7.00)
Y2	0.098(2.50)

Dimensions in inches and (millimeters)

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
DPAK/TO-252	13"	3,000	8.0	6,000	335*335*43	330	350*330*360	48,000	22.0

Packing information



Unit : mm

Item	Symbol	Tolerance	DPAK
Carrier width	A	0.1	6.90
Carrier length	B	0.1	10.50
Carrier depth	C	0.1	2.70
Sprocket hole	d	0.1	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D1	min	50.00
7" Reel outside diameter	D	2.0	-
7" Reel inner diameter	D1	min	-
Feed hole diameter	D2	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	7.50
Punch hole pitch	P	0.1	8.00
Sprocket hole pitch	P0	0.1	4.00
Embossment center	P1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	16.00
Reel width	W1	1.0	22.00