

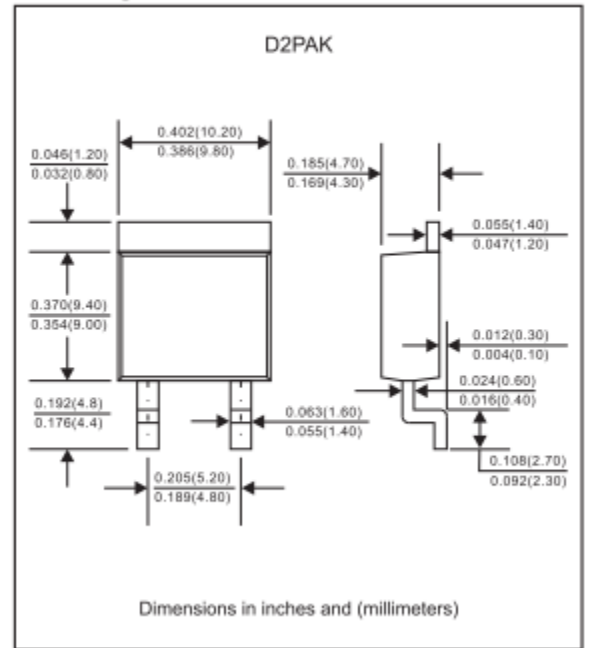
Features

- 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.ECC1620C-D2-H.

Mechanical Data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, TO-263 / D2PAK
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any
- Weight : Approximated 1.46 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			16	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
	$V_R=V_{RRM}$ $T_J=100^\circ\text{C}$				50	
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 $T_J(^{\circ}C)$
ECC1620C-D2	20	14	20	0.55	-55~+125
ECC1630C-D2	30	21	30		
ECC1640C-D2	40	28	40		
ECC1645C-D2	45	31.5	45		
ECC1650C-D2	50	35	50	0.7	-55~+150
ECC1660C-D2	60	42	60		
ECC1680C-D2	80	56	80	0.85	
ECC16100C-D2	100	70	100		
ECC16150C-D2	150	105	150		
ECC16200C-D2	200	140	200	0.92	

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F = 8.0A$

Rating and characteristic curves (ECC1620C-D2 THRU ECC16200C-D2)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

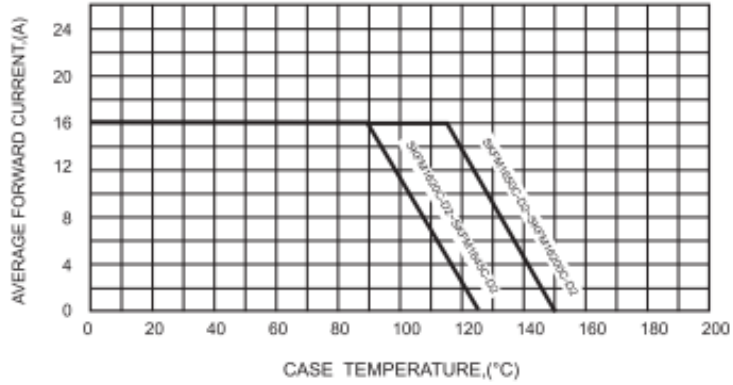


FIG.2-TYPICAL FORWARD CHARACTERISTICS

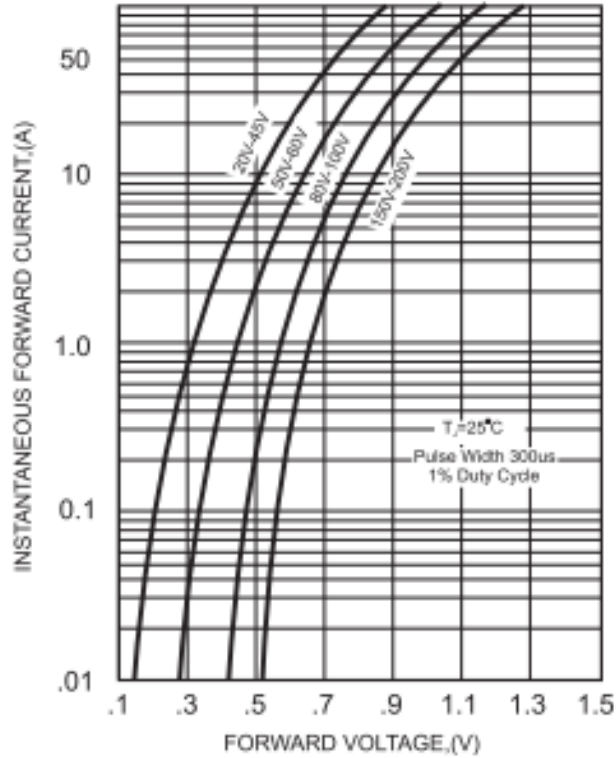


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

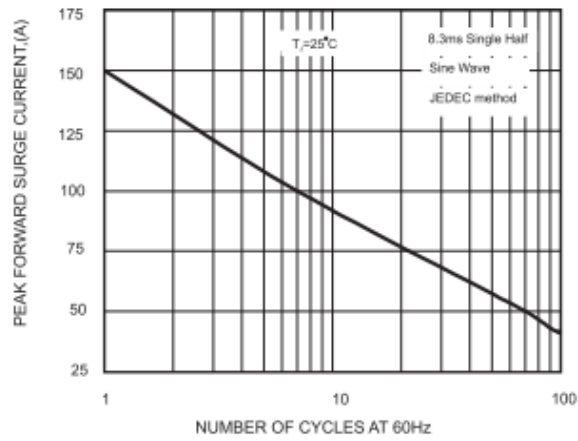
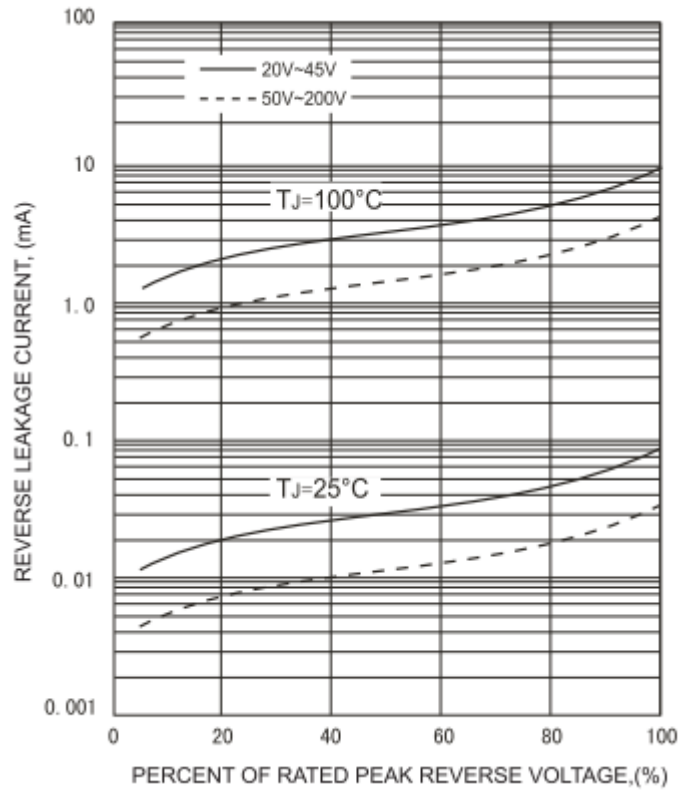
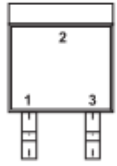
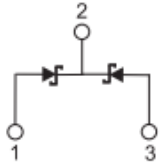


FIG.4- TYPICAL REVERSE CHARACTERISTICS



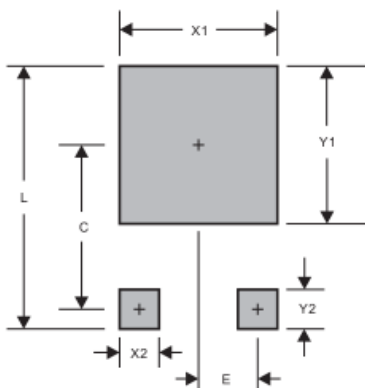
Pinning information

Simplified outline	Symbol
	

Marking

Part No	Marking Code
ECC1620C-D2	SK1620
ECC1630C-D2	SK1630
ECC1640C-D2	SK1640
ECC1645C-D2	SK1645
ECC1650C-D2	SK1650
ECC1660C-D2	SK1660
ECC1680C-D2	SY1680
ECC16100C-D2	SK16100
ECC16150C-D2	SK16150
EC16200C-D2	SK16200

Suggested solder pad layout



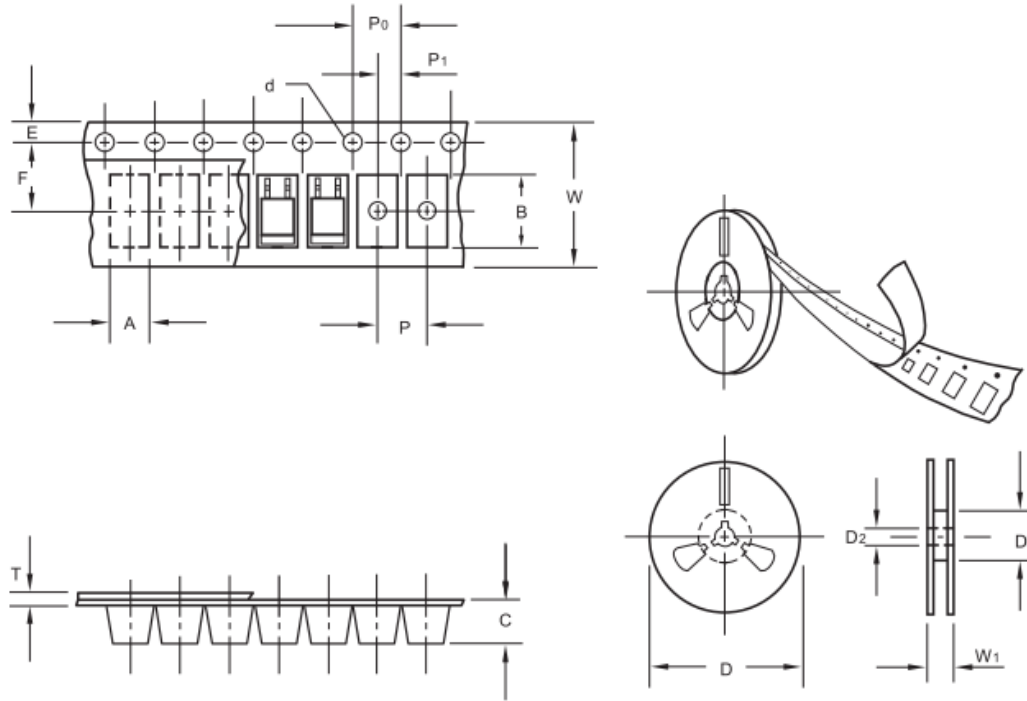
PACKAGE	D2PAK
C	0.374(9.50)
E	0.098(2.50)
L	0.665(16.90)
X1	0.425(10.80)
X2	0.071(1.80)
Y1	0.449(11.40)
Y2	0.138(3.50)

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)
D2PAK/TO-263	13"	800	16.0	800	337*337*37	330	350*330*360	6,400	15.0

Packing information



Unit : mm

Item	Symbol	Tolerance	D2PAK
Carrier width	A	0.1	10.70
Carrier length	B	0.1	16.30
Carrier depth	C	0.1	5.10
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	11.50
Punch hole pitch	P	0.1	16.00
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	24.00
Reel width	W1	1.0	30.00