

Features

- Glass Passivated Junction
- Lead Free Finish/RoHS Compliant (Note 1)("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free. "Green" Device (Note 2)
- Moisture Sensitivity Level 1

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	600	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	420	V
Average Rectified Forward Current @ $T_L=125^\circ\text{C}$	$I_{F(AV)}$	1	A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I_{FSM}	35	A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		60	
Current Squared Time @ $1\text{ms} \leq t \leq 8.3\text{ms}$	I^2t	3.735	A^2s

Internal Structure

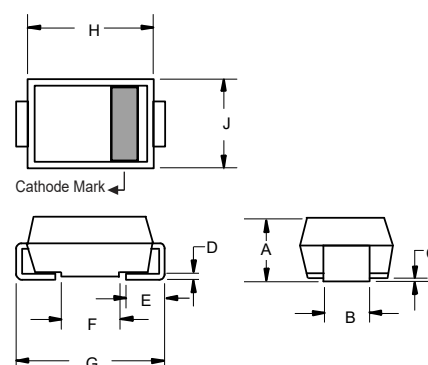
Pin	Description	Simplified outline	Graphic symbol
1	Cathode		
2	Anode		

Note:

1. High temperature solder exemption applied, see EU directive annex 7a.
2. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

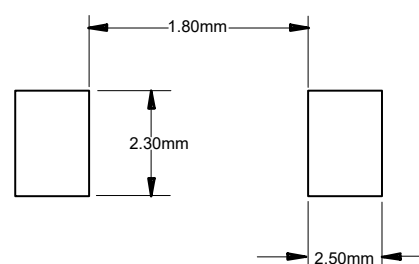
1 Amp Super Fast Recovery Rectifier 600 Volts

SMB (DO-214AA)



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		150	°C
T_{stg}	Storage Temperature Range		-55		150	°C
$R_{th(J-L)}$	Thermal Resistance from Junction to Lead	Note 1		18		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		75		°C/W

Note:

1. Mounted on P.C.B. with 8mm*8mm copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	V_F	$I_F=1A; T_J=25^{\circ}C$			1.25	V
Reverse Current	I_R	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=150^{\circ}C$			5 150	μA
Junction Capacitance	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		15		pF

Dynamic Recovery Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions		Min	Typ	Max	Unit
Reverse Recovery Time	t_{rr}	$I_F=0.5A; I_R=1.0A; I_{RR}=0.25A; T_J=25^{\circ}C$				50	ns
		$I_F=1A, di/dt=-50A/us, V_R=30V; T_J=25^{\circ}C$			49		
			$T_J=25^{\circ}C$		38		
			$T_J=125^{\circ}C$		59		
Peak Recovery Current	I_{RRM}	$I_F=1A$ $di/dt=-200A/\mu s$ $V_R=400V$	$T_J=25^{\circ}C$		3.5		A
	$T_J=125^{\circ}C$			5.5			
Reverse Recovery Charge	Q_{rr}			$T_J=25^{\circ}C$		68	
			$T_J=125^{\circ}C$		160		

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

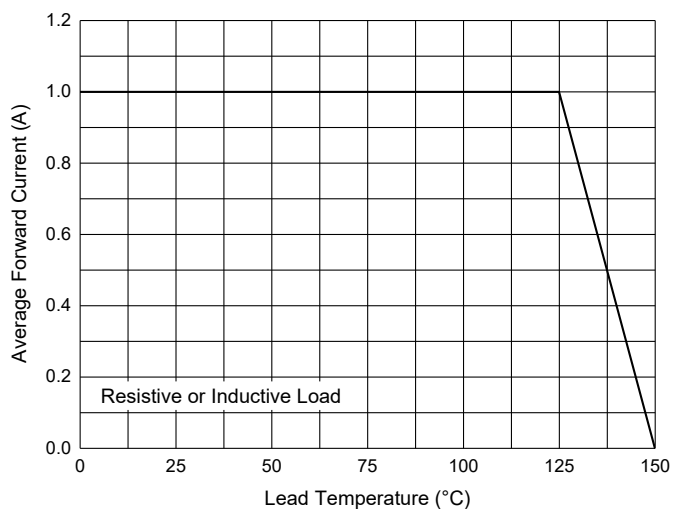


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

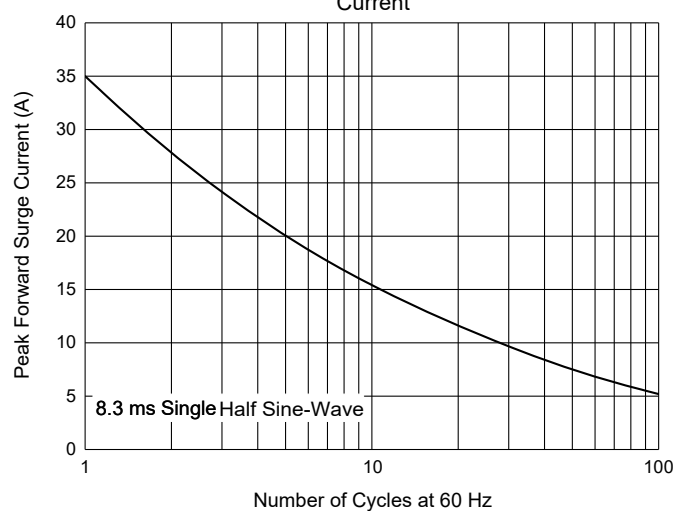


Fig. 3 - Typical Instantaneous Forward Characteristics

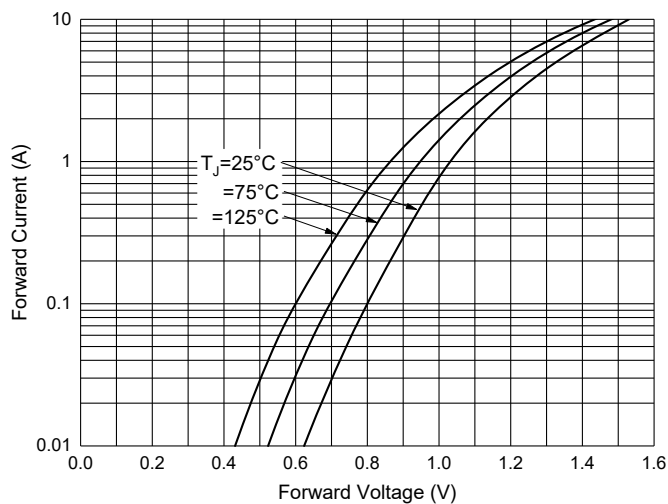


Fig. 4 - Typical Reverse Leakage Characteristics

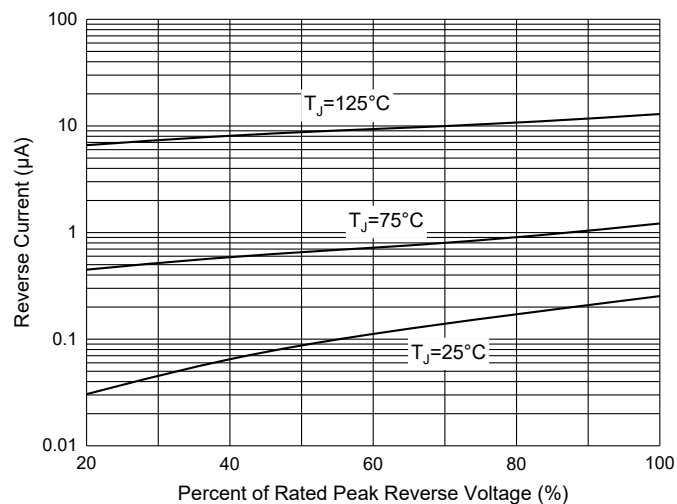
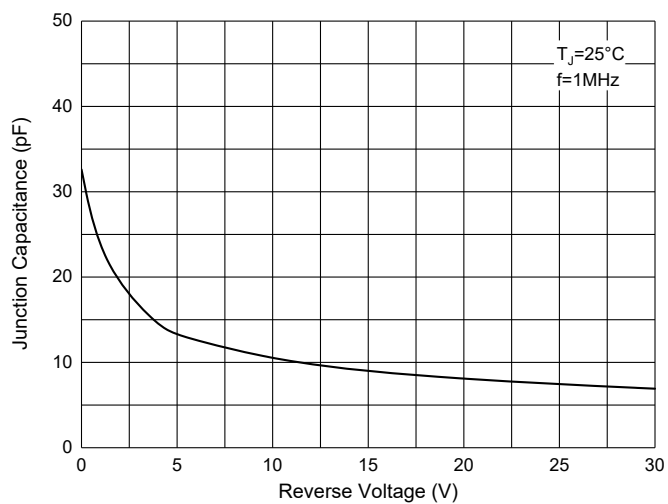


Fig. 5 - Typical Capacitance Characteristics



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel

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