

Features

- High Current Capability and High Efficiency
- Halogen Free. "Green" Device (Note 1)
- Fully Automotive Qualified to AEC-Q101
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	V_{RRM}	100	V
Working Peak Reverse Voltage	V_{RWM}		
DC Blocking Voltage	V_R		
RMS Reverse Voltage	V_{RMS}	70	V
Average Rectified Forward Current	$I_{F(AV)}$	20 40	A
Per Diode Per Device			
Non-Repetitive Peak Surge Current @8.3ms Half Sine Wave	I_{FSM}	300	A
Current Squared Time @ 1ms ≤ t ≤ 8.3ms	I^2t	373	A ² s

Internal Structure

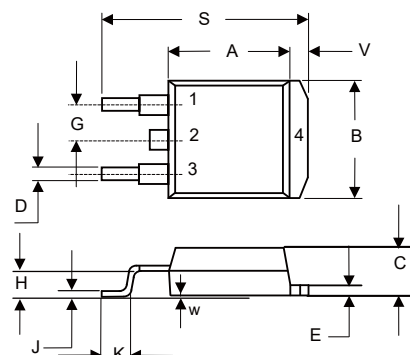
Pin	Description	Simplified Outline	Graphic Symbol
1,3	Anode		
2,4	Cathode		

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

40 Amp Schottky Barrier Rectifiers 100 Volts

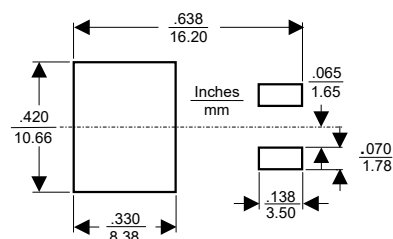
D²-PAK



DIMENSIONS

DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.331	0.370	8.40	9.40	
B	0.378	0.417	9.60	10.60	
C	0.165	0.189	4.20	4.80	
D	0.027	0.037	0.68	0.94	
E	0.045	0.055	1.14	1.40	
G	0.010		2.54		TYP.
H	0.096	0.134	2.43	3.40	
J	0.011	0.025	0.28	0.64	
K	0.071	0.131	1.80	3.32	
S	0.575	0.625	14.60	15.87	
V	0.042	0.058	1.07	1.47	
W	0.000	0.010	0.00	0.25	

Suggested Solder Pad Layout



Thermal characteristics

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
T_J	Operating Junction Temperature Range		-55		175	°C
T_{stg}	Storage Temperature Range		-55		175	°C
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Per Leg		2		°C/W
$R_{th(J-A)}$	Thermal Resistance from Junction to Ambient	Note 1		40		°C/W

Note:

1. Mounted on P.C.B. with 1in² copper pad areas.

Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage Per Diode	V_F	$I_F=20A; T_J=25^{\circ}C$		0.79	0.85	V
		$I_F=20A; T_J=125^{\circ}C$		0.67	0.75	
Reverse Current Per Diode	I_R	$V_R=100V; T_J=25^{\circ}C$			10	μA
		$V_R=100V; T_J=125^{\circ}C$			1000	
Junction Capacitance Per Diode	C_J	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		510		pF

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

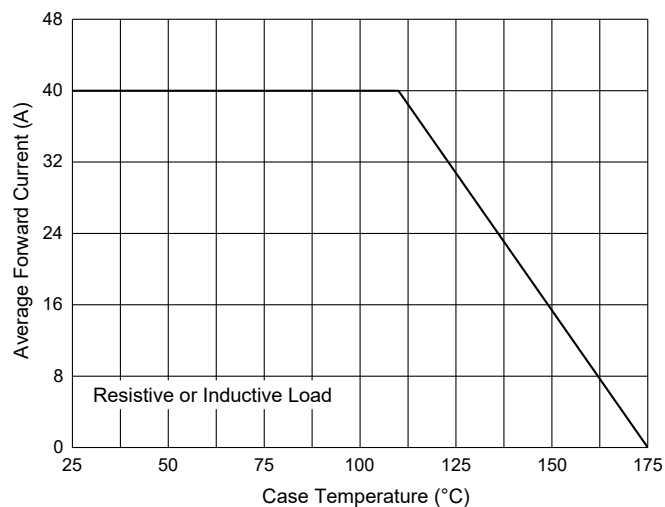


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

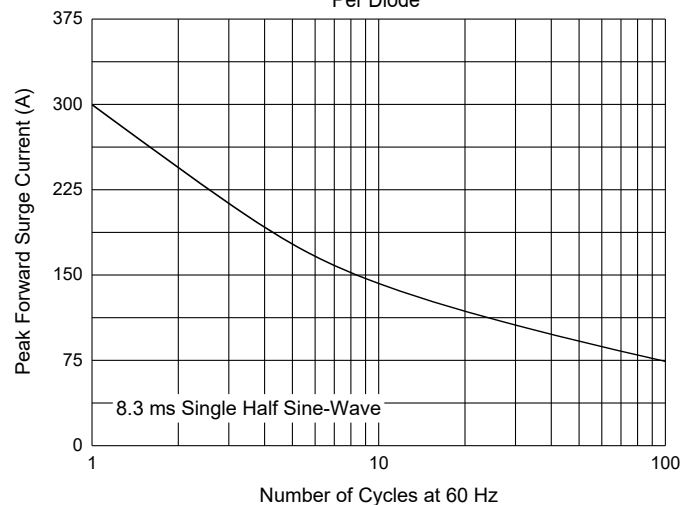


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

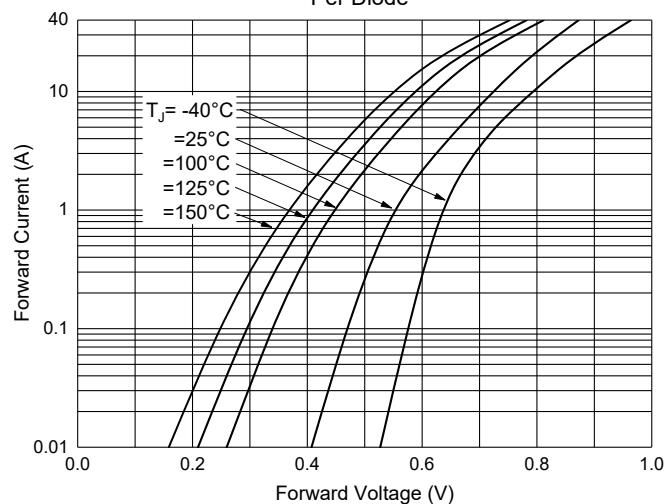


Fig. 4 - Typical Reverse Leakage Characteristics Per Diode

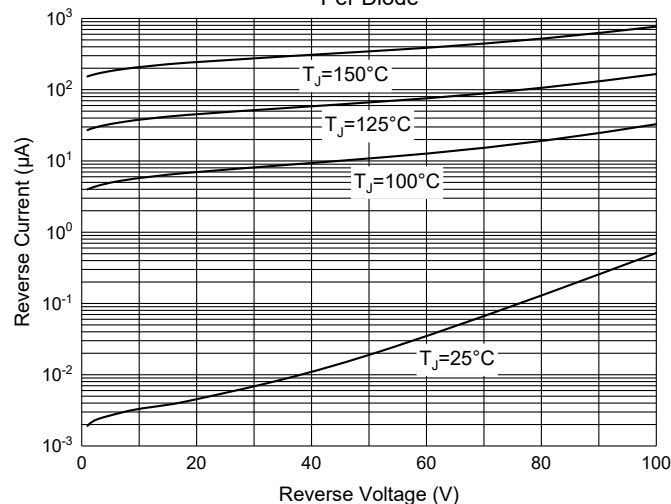
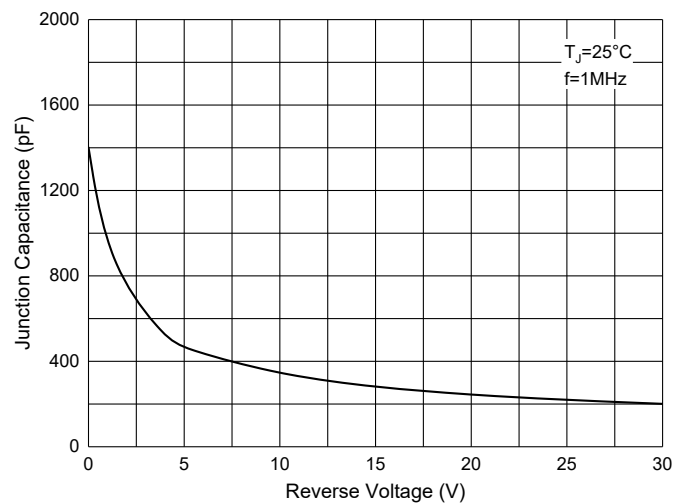


Fig. 5 - Typical Capacitance Characteristics Per Diode



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel: 800pcs/Reel
Part Number-BP	Tube: 5Kpcs/Ctn

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