



E502650

## Features

- Glass Passivated Chip Junction
- High Surge Current Capability
- Lead Free Finish/RoHS Compliant (Note 1) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating

## Maximum Ratings @ 25°C (Unless Otherwise Specified)

Parameter	Symbol	Value		Unit
		S50VB100DT	S50VB160DT	
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	1000	1600	V
Working Peak Reverse Voltage	V <sub>RWM</sub>			
DC Blocking Voltage	V <sub>R</sub>			
RMS Reverse Voltage	V <sub>RMS</sub>	700	1120	V
Average Rectified Forward Current @ T <sub>C</sub> =80°C	I <sub>F(AV)</sub>	50		A
Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave	I <sub>FSM</sub>	500		A
Non-Repetitive Peak Surge Current @ 1ms Square Wave		1000		
I <sup>2</sup> t Rating for Fusing @1ms≤t≤8.3ms	I <sup>2</sup> t	1037.5		A <sup>2</sup> s
Dielectric strength @Terminals to Case, AC 1 Minute	V <sub>dis</sub>	2.5		KV

## Marking Code

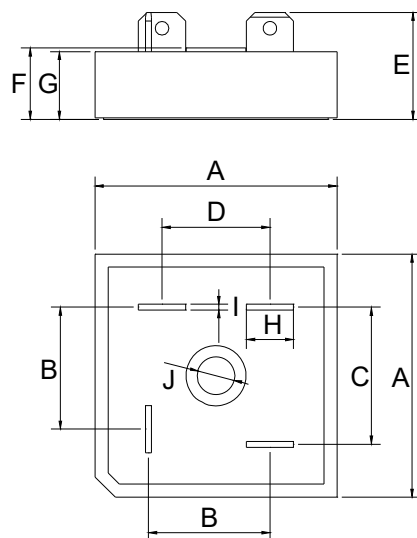
Part Number	Marking Code
S50VB100DT	S50VB100DT
S50VB160DT	S50VB160DT

Marking Diagram	Internal Structure
<p>Marking Code: XXXXXXXXXX Date Code: YYWW</p>	

Note: 1. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

# 50 Amp Bridge Rectifiers 1000V to 1600 Volts

## S50VB DT



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	1.260	1.299	32.00	33.00	
B	0.618	0.657	15.70	16.70	
C	0.697	0.736	17.70	18.70	
D	0.547	0.587	13.90	14.90	
E	0.543	0.583	13.80	14.80	
F	0.354	0.394	9.00	10.00	
G	0.335	0.374	8.50	9.50	
H	0.240	0.256	6.10	6.50	
I	0.030	0.033	0.75	0.85	
J	0.193	0.209	4.90	5.30	

## 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
$R_{th(J-C)}$	Thermal Resistance from Junction to Case	Note 1		0.9		°C/W

Note: 1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

## Mechanical Data

Recommend Mounting Torque: 5 kg•cm

## Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward Voltage	$V_F$	$I_F=25A; T_J=25^{\circ}C$			1.05	V
Reverse Current	$I_R$	at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$			5 500	$\mu A$
Junction Capacitance	$C_J$	$V_R=4V; f=1MHz; T_J=25^{\circ}C$		265		pF

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

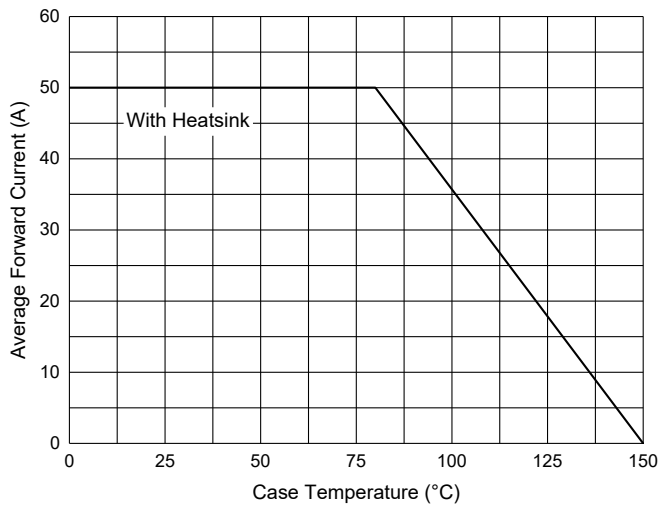


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current (Per Diode)

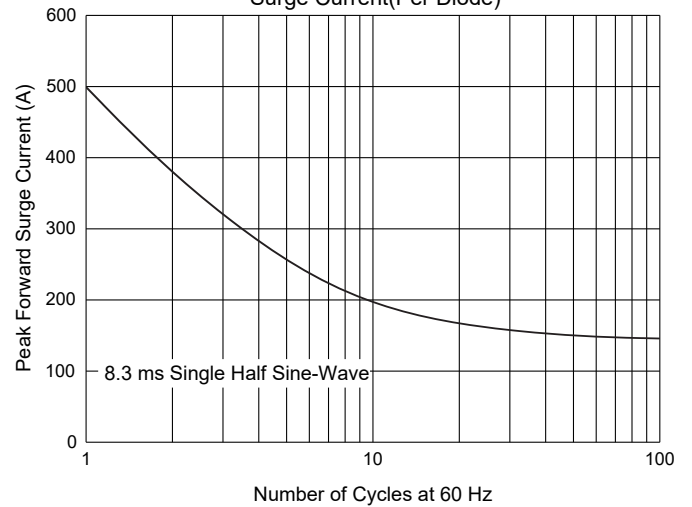


Fig. 3 - Typical Forward Characteristics (Per Diode)

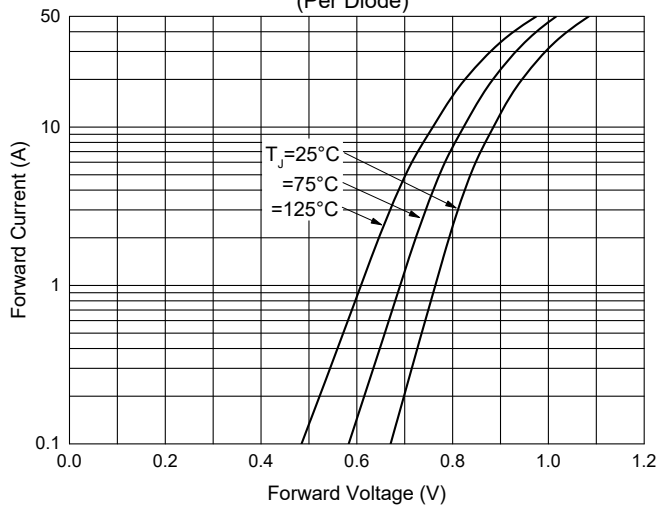


Fig. 4 - Typical Reverse Leakage Characteristics (Per Diode)

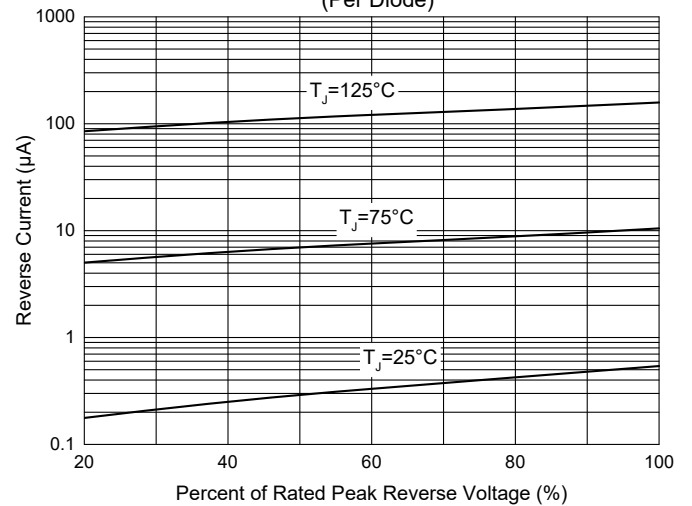
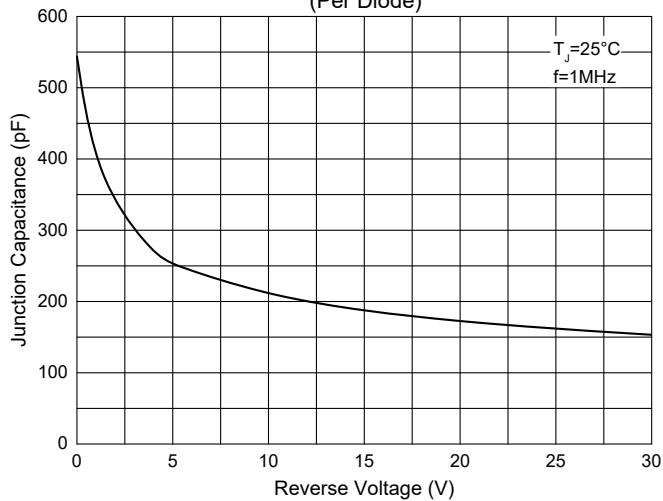


Fig. 5 - Typical Capacitance Characteristics (Per Diode)



## Ordering Information

Device	Packing
Part Number-BP	Bulk:400pcs/Carton

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