

# B40 - B380/C1500R

# SILICON BRIDGE RECTIFIERS

**PRV : 100 - 900 Volts**

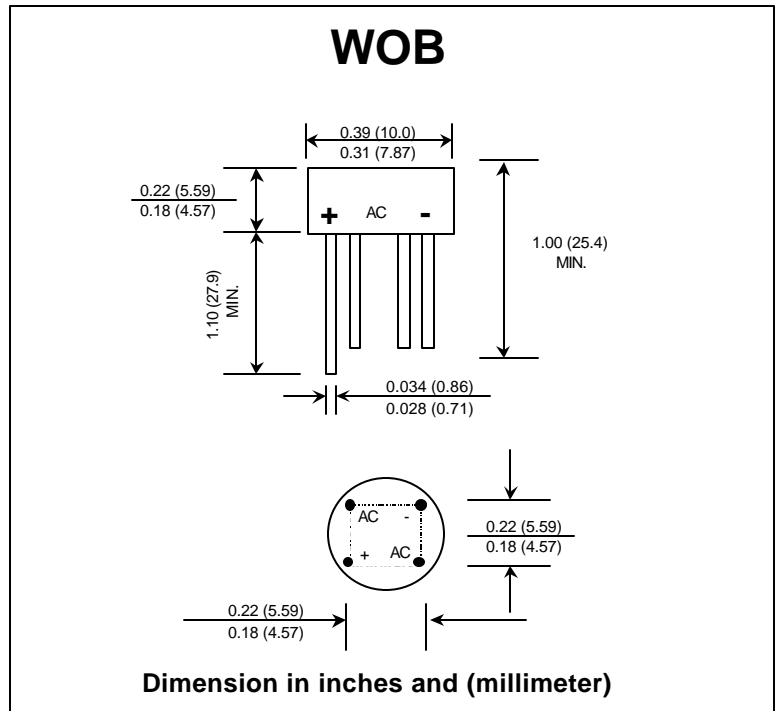
**Io : 1.5 Amperes**

### FEATURES :

- \* High case dielectric strength
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* Ideal for printed circuit board

### MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated leads solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 1.29 grams



### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.  
 Single phase, half wave, 60 Hz, resistive or inductive load.  
 For capacitive load, derate current by 20%.

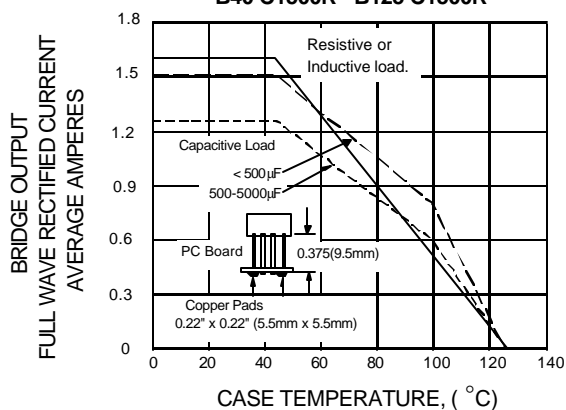
RATING	SYMBOL	B40- C1500R	B80- C1500R	B125- C1500R	B250- C1500R	B380- C1500R	UNIT
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	100	200	300	600	900	Volts
Maximum RMS Input Voltage R+C -Load	$V_{RMS}$	40	80	125	250	380	Volts
Maximum DC Blocking Voltage	$V_{DC}$	100	200	300	600	900	Volts
Maximum Average Forward Current For Free Air Operation at $T_c = 45^\circ\text{C}$ R+L -Load C -Load	$I_{F(AV)}$	1.6 1.5					Amps.
Peak Forward Surge Current Single half sine wave on rated load (JEDEC Method) at $T_J = 125^\circ\text{C}$	$I_{FSM}$	50					Amps.
Rating for fusing at $T_J = 125^\circ\text{C}$ ( $t < 100$ ms. )	$I^2t$	10					$\text{A}^2\text{S}$
Maximum Series Resistor C-Load $V_{RMS} = \pm 10\%$	$R_t$	1.0	2.0	4.0	8.0	12.0	$\Omega$
Maximum load Capacitance + 50% -10%	$C_L$	5000	2500	1000	500	200	$\mu\text{F}$
Maximum Forward Voltage per Diode at $I_F = 1.5$ Amps.	$V_F$	1.0					Volts
Maximum Reverse Current at Rated Repetitive Peak Voltage per Diode $T_a = 25^\circ\text{C}$	$I_R$	10					$\mu\text{A}$
Typical Thermal Resistance (Note 1)	$R_{\theta JA}$	36					$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	- 50 to + 125					$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 50 to + 150					$^\circ\text{C}$

### Notes :

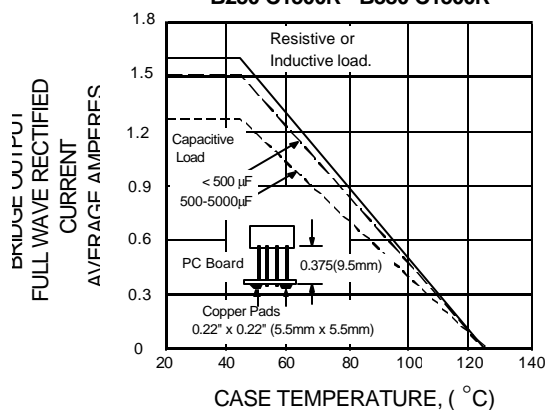
1 ) Thermal resistance from Junction to Ambient at 0.375" (9.5 mm) lead length P.C. Board with, 0.22" x 0.22" (5.5 x 5.5 mm) copper Pads.

## RATING AND CHARACTERISTIC CURVES ( B40-B380/C1500R )

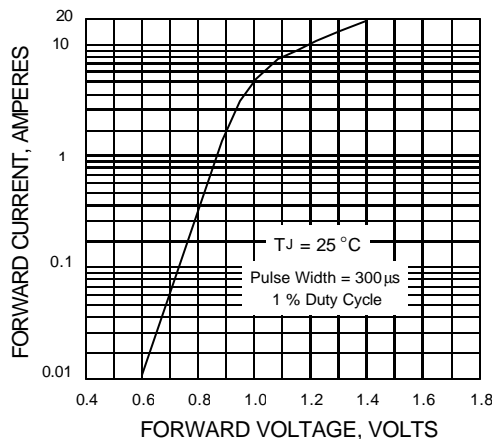
**FIG.1 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B40 C1500R - B125 C1500R**



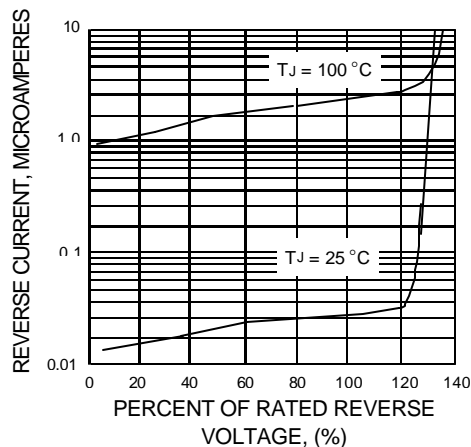
**FIG.2 - DERATING CURVE  
FOR OUTPUT RECTIFIED CURRENT  
B250 C1500R - B380 C1500R**



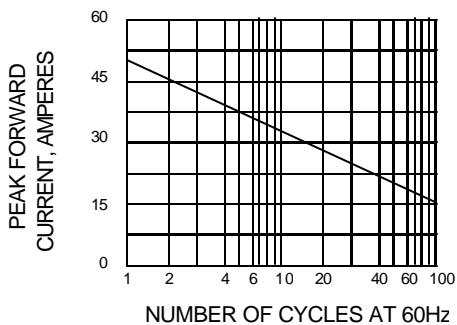
**FIG.3 - TYPICAL FORWARD CHARACTERISTICS**



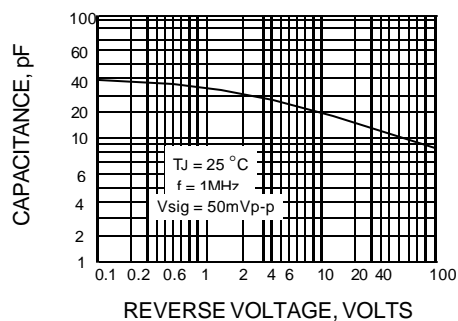
**FIG.4 - TYPICAL REVERSE CHARACTERISTICS**



**FIG.5 - MAXIMUM NON-REPETITIVE  
PEAK FORWARD CURRENT**



**FIG.6 - TYPICAL JUNCTION CAPACITANCE  
PER BRIDGE ELEMENT**



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