

# RBV5000 thru RBV5010

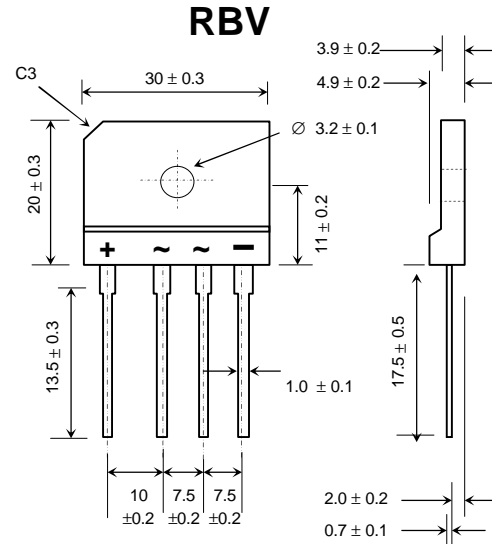
**SINGLE-PHASE SILICON BRIDGE RECTIFIER**  
**VOLTAGE RANGE 50 to 1000 Volts CURRENT 50 Amperes**

## FEATURES :

- \* High current capability
- \* High surge current capability
- \* High reliability
- \* Low reverse current
- \* Low forward voltage drop
- \* High case dielectric strength of 2000VDC
- \* Ideal for printed circuit board
- \* Very good heat dissipation

## MECHANICAL DATA :

- \* Case : Reliable low cost construction utilizing molded plastic technique
- \* Epoxy : UL94V-O rate flame retardant
- \* Terminals : Plated lead solderable per MIL-STD-202, Method 208 guaranteed
- \* Polarity : Polarity symbols marked on case
- \* Mounting position : Any
- \* Weight : 8.17 grams ( Approximaly )



**Dimensions in millimeters**

## 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	RBV	RBV	RBV	RBV	RBV	RBV	RBV	UNIT
		5000	5001	5002	5004	5006	5008	5010	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V
Maximum Average Forward Current $T_c = 55^\circ\text{C}$	$I_{F(AV)}$	50							A
Peak Forward Surge Current Single half sine wave Superimposed on rated load (JEDEC Method)	$I_{FSM}$	400							A
Current Squared Time at $t < 8.3$ ms.	$I^2t$	660							$\text{A}^2\text{S}$
Maximum Forward Voltage per Diode at $I_F = 25$ A	$V_F$	1.1							V
Maximum DC Reverse Current $T_a = 25^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 100^\circ\text{C}$	$I_R$	10							$\mu\text{A}$
	$I_{R(H)}$	200							$\mu\text{A}$
Typical Thermal Resistance (Note 1)	$R_{\theta JC}$	1.5							$^\circ\text{C}/\text{W}$
Operating Junction Temperature Range	$T_J$	10							$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	- 40 to + 150							$^\circ\text{C}$

### Note :

1. Thermal Resistance from junction to case with units mounted on heatsink.

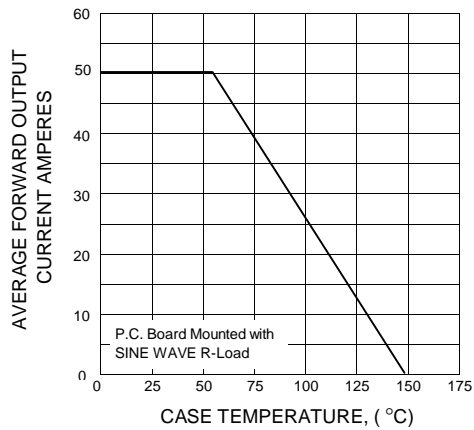


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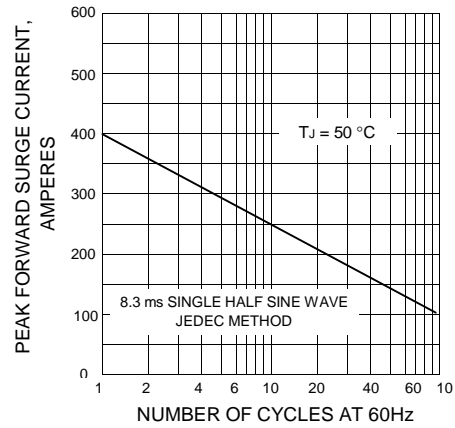
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## RATING AND CHARACTERISTIC CURVES ( RBV5000 - RBV5010 )

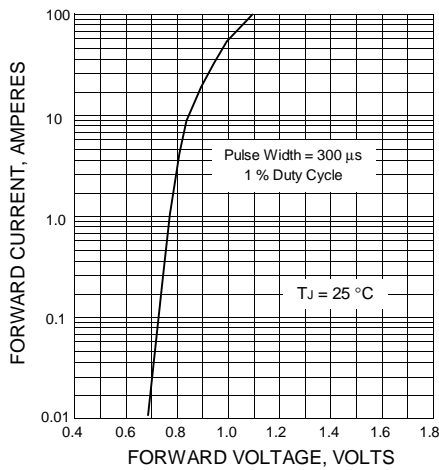
**FIG.1 - DERATING CURVE FOR OUTPUT RECTIFIED CURRENT**



**FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



**FIG.3 - TYPICAL FORWARD CHARACTERISTICS PER DIODE**



**FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER DIODE**

