

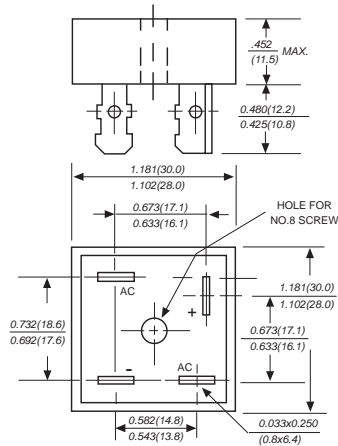


# MP50005 THRU MP5010

## SILICON BRIDGE RECTIFIERS

Reverse Voltage - 50 to 1000 Volts Forward Current - 50.0 Amperes

### KBPC-35



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Ideal for printed circuit boards
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 260°C/10 seconds, at 5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** Metal case

**Terminals:** Plated 0.25" (6.35mm) lug.

**Polarity:** Polarity symbols marked on case

**Mounting:** Thru hole for #8 screw, 20in.-lbs. torque max.

**Weight:** 1.02 ounce, 29 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for current capacitive load current derate by 20%.

MDD Catalog Number	SYMBOLS	MP 50005	MP 5001	MP 5002	MP 5004	MP 5006	MP 5008	MP 5010	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward output rectified current at $T_c=50^\circ\text{C}$ (Note 1,2)	$I_{(AV)}$	50							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	400.0							Amps
Rating for Fusing ( $t < 8.3\text{ms}$ )	$I^2t$	664							$\text{A}^2\text{s}$
Maximum instantaneous forward voltage drop per bridge element at 25A	$V_F$	1.1							Volts
Maximum DC reverse current at rated DC blocking voltage	$I_R$	$T_A=25^\circ\text{C}$							$\mu\text{A}$
		$T_A=100^\circ\text{C}$							$\text{mA}$
Isolation voltage from case to leads	$V_{ISO}$	2500							$V_{AC}$
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	2.0							$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_J$	-65 to +150							$^\circ\text{C}$
storage temperature range	$T_{STG}$	-65 to +150							$^\circ\text{C}$

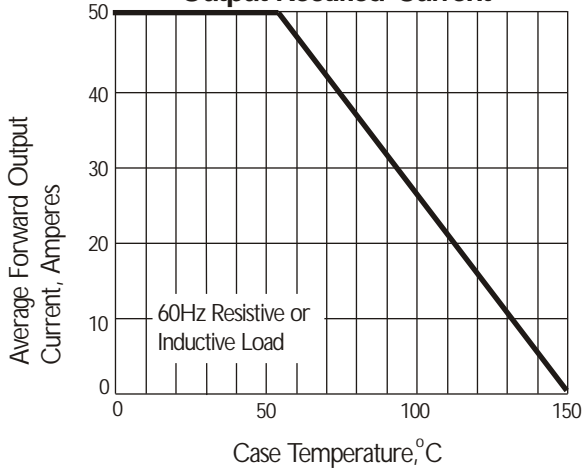
#### NOTES:

1. Unit mounted on 9" x 3.5" x 4.6" thick (23cm x 9cm x 11.8cm) Al. plate.

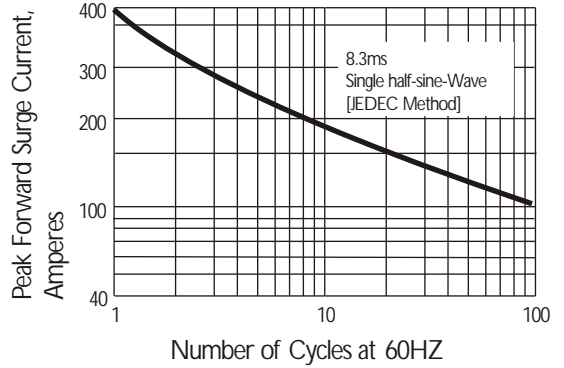
2. Bolt down on heat-sink with silicone thermal compound between bridge and mounting surface for maximum heat transfer efficiency with #8 screw.

RATINGS AND CHARACTERISTIC CURVES MP50005 THRU MP5010

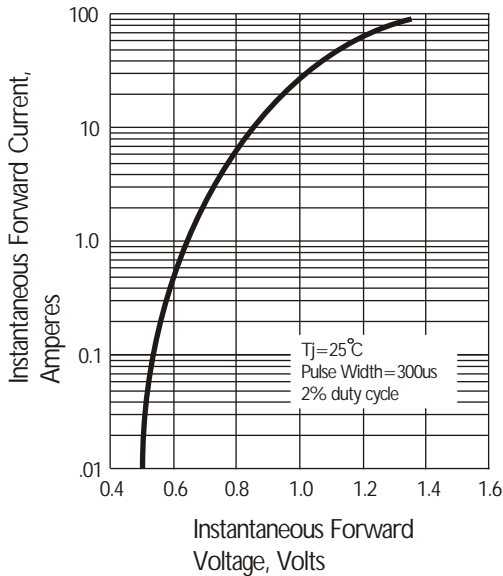
**Fig. 1 Derating Curve for Output Rectified Current**



**Fig. 2 Maximum Non-repetitive Peak Forward Surge Current**



**Fig. 3 Typical Instantaneous Forward Characteristics**



**Fig. 4 Typical Reverse Characteristics at Tj=25°C**

