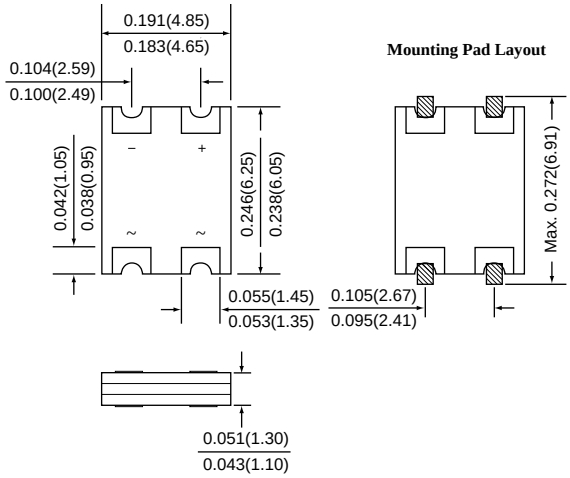
MBC10D THRU MBC10M

MINIATURE SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

Reverse Voltage - 200 to 1000 Volts *Forward Current - 1.0 Ampere*

PATENTED

MBC



*Dimensions in inches and (millimeters)

SuperBridge with GPRC inside

SuperChip™

SUPEREX II™

FEATURES

* Internal Constructure with GPRC (Glass Passivated Rectifier Chip) inside
* Lead free product
* Leadless chip form , no lead damage
* Solder Joint , No Wire bond & Lead Frame
* Low profile package
* For surface mounted applications
* Built-in strain relief
* Low power loss , High efficiency
* High current capability
* High surge capacity
* Plastic package has Underwriters Laboratory Flammability Classification 94V-0

MECHANICAL DATA

Case : Packed with FRP substrate and epoxy underfilled
Terminals : Tin plated, solderable per MIL-STD-750, Method 2026
Polarity : Laser marking
Weight : 0.07 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.	*SYMBOLS*	***MBC10D***	***MBC10G***	***MBC10J***	***MBC10K***	***MBC10M***	*UNITS*
Maximum repetitive peak reverse voltage	V_{RRM}	200	400	600	800	1000	Volts
Maximum RMS voltage	V_{RMS}	140	280	420	560	700	Volts
Maximum DC blocking voltage	V_{DC}	200	400	600	800	1000	Volts
Maximum average forward rectified current @ T_A=55°C	$I_{(AV)}$	1.0					Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	40					Amps
Maximum instantaneous forward voltage @ I_F=0.4 A @ I_F=1.0 A	V_F	0.9 1.0					Volts
Maximum DC reverse current @T_C=25°C at rated DC blocking voltage @T_C=150°C	I_R	5 200					uA
I^2t rating for fusing (t < 8.3ms)	I^2t	3.74					A^2s
Typical junction capacitance per element (NOTE 1)	C_J	25					pF
Typical thermal resistance, junction to ambient (NOTE 2)	$R_{\theta JA}$	110					°C / W
Operating junction and storage temperature range	T_J,T_{STG}	-55 to +175					°C

NOTES : (1) Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.
(2) Thermal resistance, junction to ambient, measured on PC board with 5.0mm^2 (0.03mm thick) land areas.

RATINGS AND CHARACTERISTIC CURVES MBC10D THRU MBC10M

FIG.1 - FORWARD CURRENT DERATING CURVE

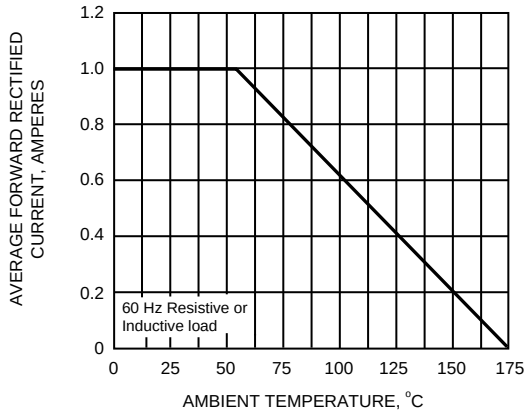


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

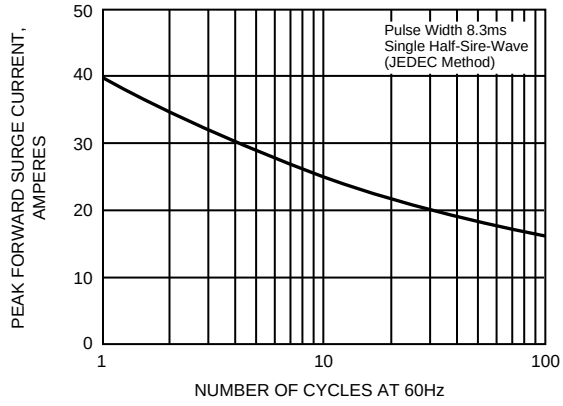


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

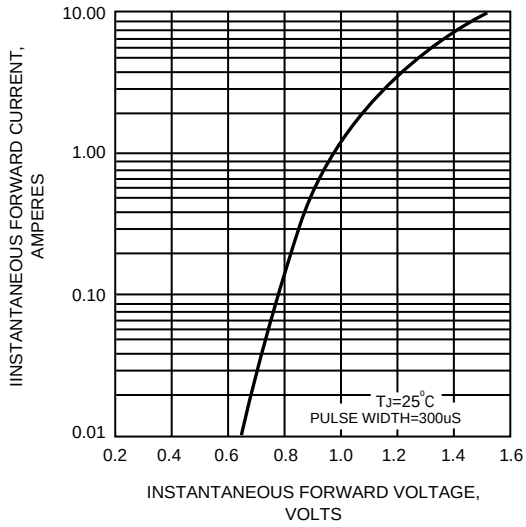


FIG.4 - TYPICAL REVERSE CHARACTERISTICS PER BRIDGE ELEMENT

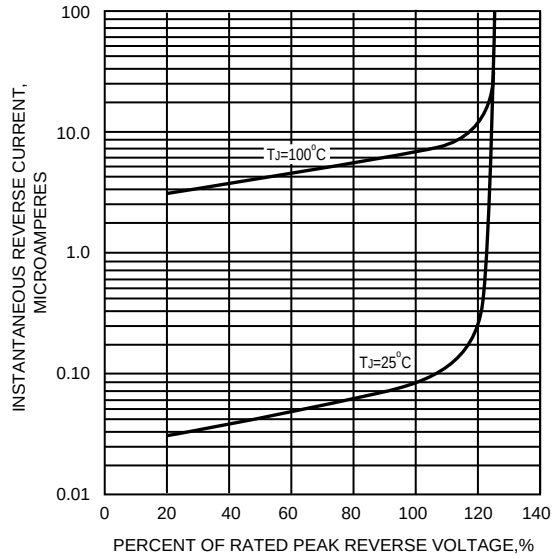


FIG.5 - TYPICAL JUNCTION CAPACITANCE