



## 3.0A Surface Mount Schottky Barrier Rectifiers -20V-200V

### Features

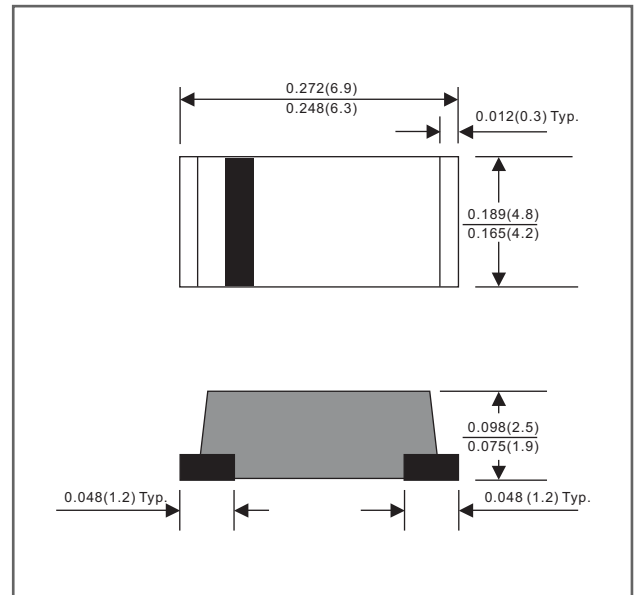
- Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- Low profile surface mounted application in order to optimize board space.
- Low power loss, high efficiency.
- High current capability, low forward voltage drop.
- High surge capability.
- Guardring for overvoltage protection.
- Ultra high-speed switching.
- Silicon epitaxial planar chip, metal silicon junction.
- Lead-free parts meet environmental standards of MIL-STD-19500/228
- Suffix "-H" indicates Halogen free parts, ex. MBRS320G-H.

### Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case: Molded plastic, DO-214AB / SMC
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Indicated by cathode band
- Mounting Position: Any
- Weight: Approximated 0.19 gram

### Package outline

#### SMC



Dimensions in inches and (millimeters)

### Maximum ratings (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	$I_O$			3.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	$I_{FSM}$			80	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^\circ\text{C}$	$I_R$			0.5	mA
	$V_R = V_{RRM} \quad T_J = 100^\circ\text{C}$				20	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		55		$^\circ\text{C}/\text{W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	$C_J$		250		pF
Storage temperature		$T_{STG}$	-65		+175	$^\circ\text{C}$

SYMBOLS	$V_{RRM}^{*1}$ (V)	$V_{RMS}^{*2}$ (V)	$V_R^{*3}$ (V)	$V_F^{*4}$ (V)	Operating temperature $T_J, (^\circ\text{C})$
MBRS320G	20	14	20	0.50	-55 to +125
MBRS330G	30	21	30		
MBRS340G	40	28	40		
MBRS350G	50	35	50	0.70	-55 to +150
MBRS360G	60	42	60		
MBRS380G	80	56	80	0.85	
MBRS3100G	100	70	100		
MBRS3150G	150	105	150	0.92	
MBRS3200G	200	140	200		

- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage@ $I_F=3.0\text{A}$

## Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

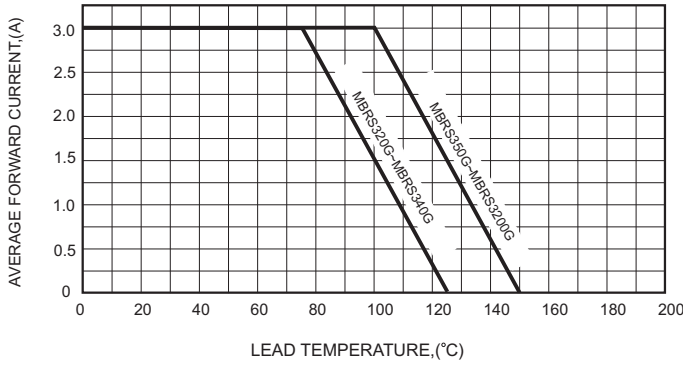


FIG.2-TYPICAL FORWARD CHARACTERISTICS

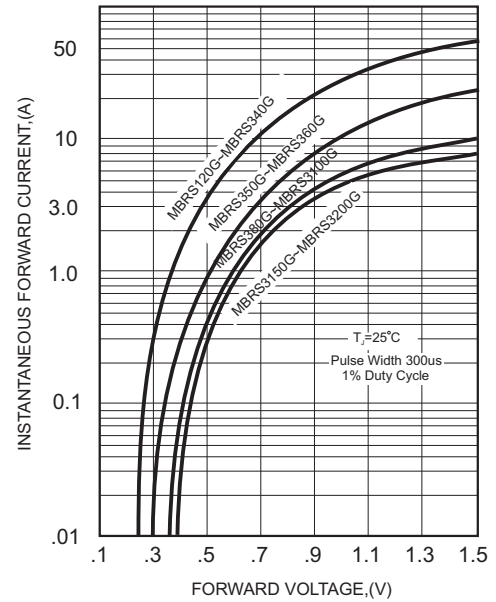


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

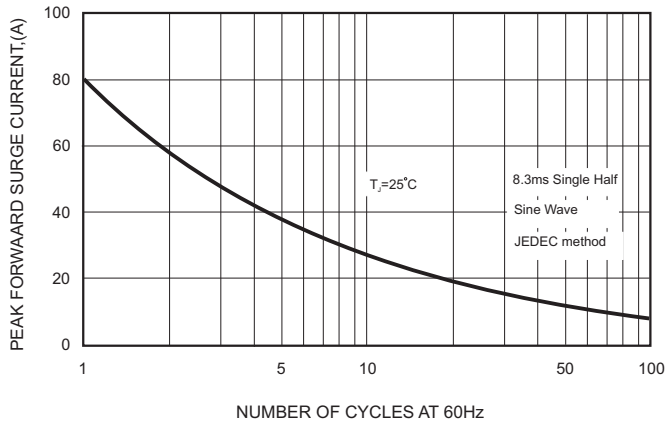


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

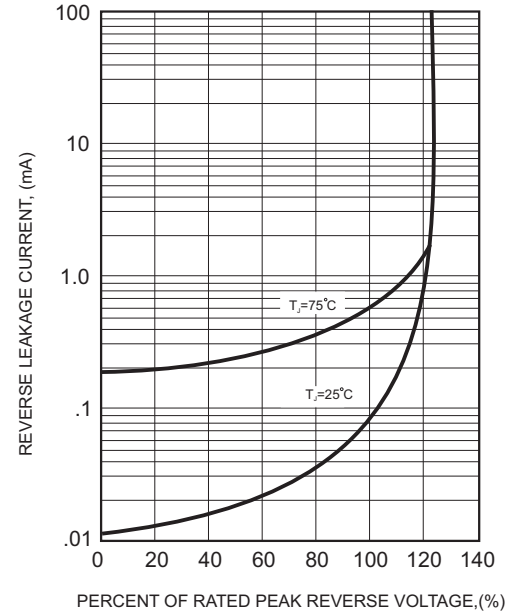


FIG.4-TYPICAL JUNCTION CAPACITANCE

