

5.0A Surface Mount Schottky Barrier Rectifiers -20V-200V

Package outline

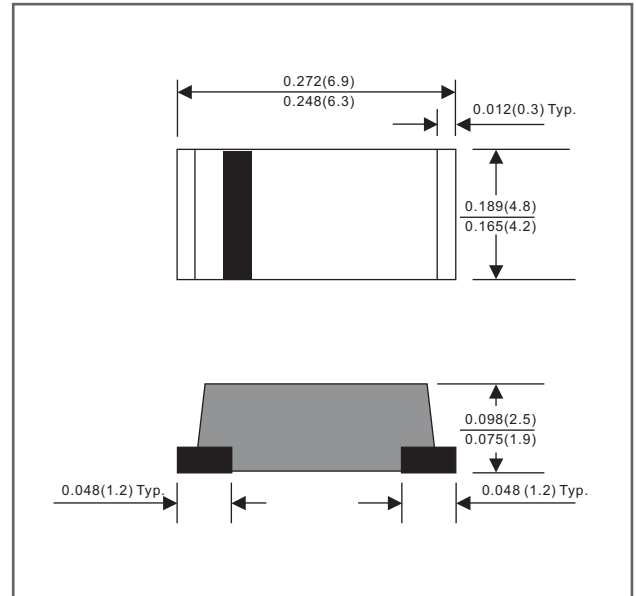
Features

- 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. MBRS520G-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

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			5.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}			150	A
Reverse current	FM520 ~ FM540 $V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_J = 100^\circ\text{C}$	I_R			0.5 20	mA
	FM550 ~ FM5200 $V_R = V_{RRM}$ $T_J = 25^\circ\text{C}$ $V_R = V_{RRM}$ $T_J = 100^\circ\text{C}$				0.2 10	
Thermal resistance	Junction to ambient	$R_{\theta JA}$		36		$^\circ\text{C/W}$
	Junction to case	$R_{\theta JC}$		16		$^\circ\text{C/W}$
Diode junction capacitance	f=1MHz and applied 4V DC reverse voltage	C_J		380		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 , (°C)
MBRS520G	20	14	20	0.55	-55 to +125
MBRS530G	30	21	30		
MBRS540G	40	28	40		
MBRS550G	50	35	50	0.75	-55 to +150
MBRS560G	60	42	60		
MBRS580G	80	56	80	0.85	
MBRS5100G	100	70	100		
MBRS5150G	150	105	150	0.90	
MBRS5200G	200	140	200	0.92	

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=5.0\text{A}$

Rating and characteristic curves

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

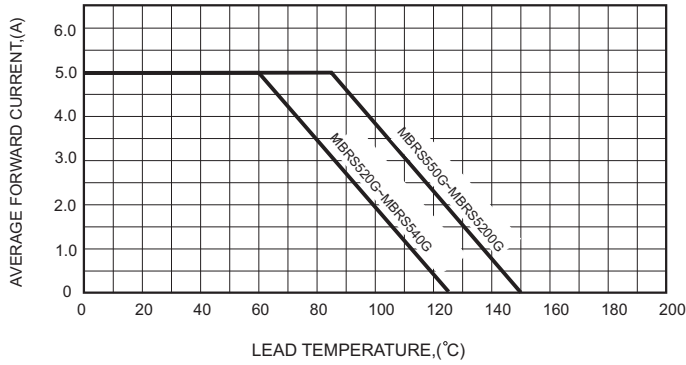


FIG.2-TYPICAL FORWARD CHARACTERISTICS

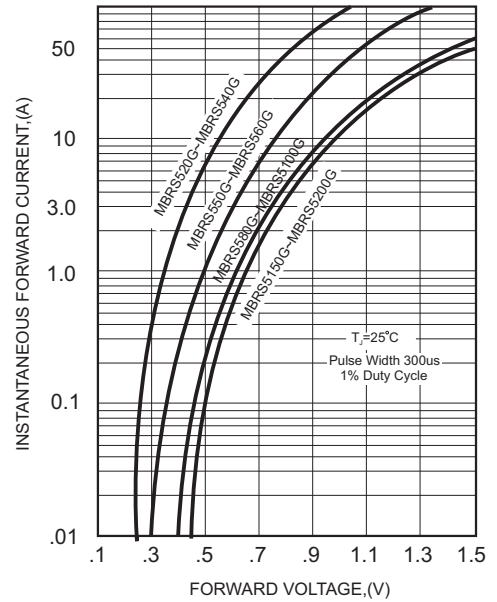


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

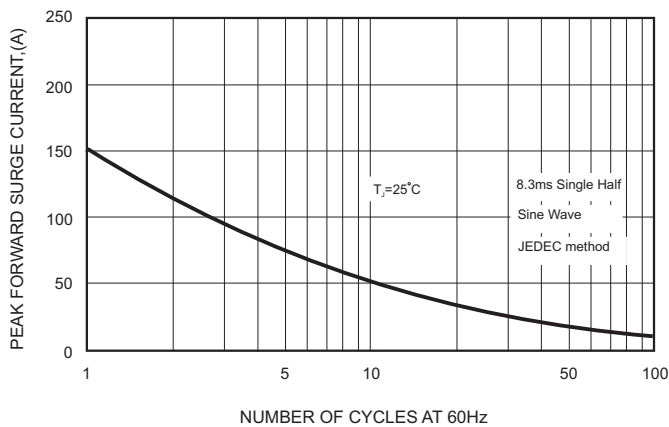


FIG.5 - TYPICAL REVERSE CHARACTERISTICS

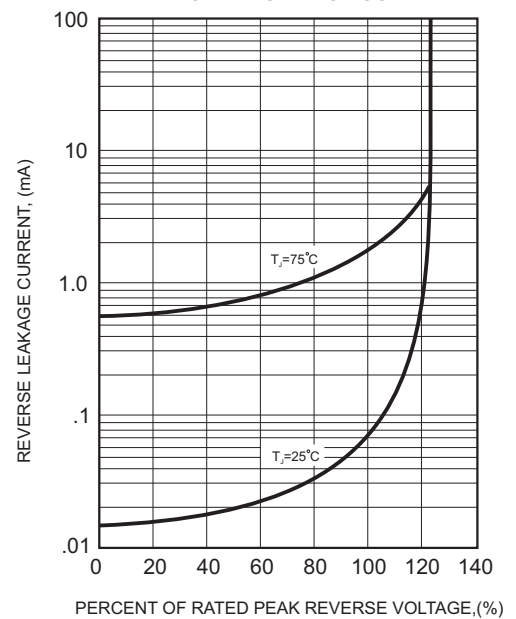


FIG.4-TYPICAL JUNCTION CAPACITANCE

