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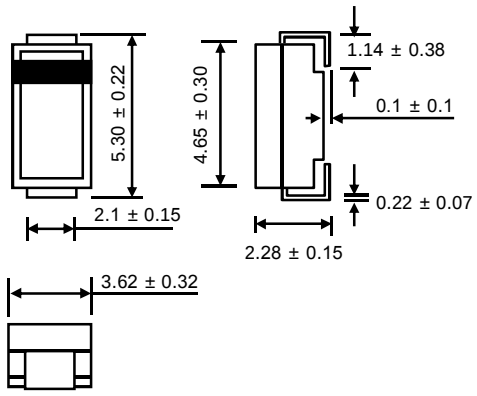
MBRS120T3

SCHOTTKY BARRIER RECTIFIER

Schottky Power Rectifier
Surface Mount Power Package

Employs the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

SMB (DO-214AA)



Dimensions in millimeters

FEATURES :

* Very Low Forward Voltage Drop
  (0.55 Volts Max @ 1.0A, T_J = 25 °C)
* Small Compact Surface Mountable Package
* Highly Stable Oxide Passivated Junction
* Guardring for Stress Protection
* Pb / RoHS Free

MECHANICAL DATA :

* Case : SMB Molded plastic
* Epoxy : UL94V-O rate flame retardant
* Lead : Lead Formed for Surface Mount
* Polarity : Color band denotes cathode end
* Mounting position : Any
* Weight : 0.1079 gram

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	VALUE	UNIT
Maximum Repetitive Reverse Voltage	V_{RRM}	20	V
Maximum Working Peak Reverse Voltage	V_{RWM}	20	V
Maximum DC Blocking Voltage	V_{DC}	20	V
Maximum Average Forward Rectified Current (T_L = 115 °C)	$I_{F(AV)}$	1.0	A
Maximum Non-repetitive Peak Surge Current (Surge applied at rated load conditions half wave, single phase)	I_{FSM}	40	A
Maximum Instantaneous Forward Voltage (Note 1) (I_F = 1.0 A, T_J = 25 °C)	V_F	0.60	V
Maximum Instantaneous Reverse Current (Note1) at T_J = 25 °C	I_R	1.0	mA
at T_J = 100 °C		10	
Thermal Resistance - Junction to Lead (T_L = 25 °C)	$R_{\Theta JL}$	12	°C/W
Operating Junction Temperature	T_J	- 65 to +125	°C

Note : (1) Pulse Test : Pulse Width = 300μs Duty Cycle ≤ 2%.

RATING AND CHARACTERISTIC CURVES (MBRS120T3)

FIG.1 - CURRENT DERATING

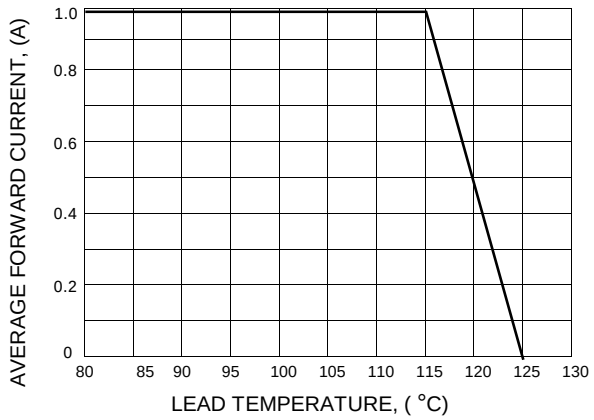


FIG.2 - TYPICAL POWER DISSIPATION

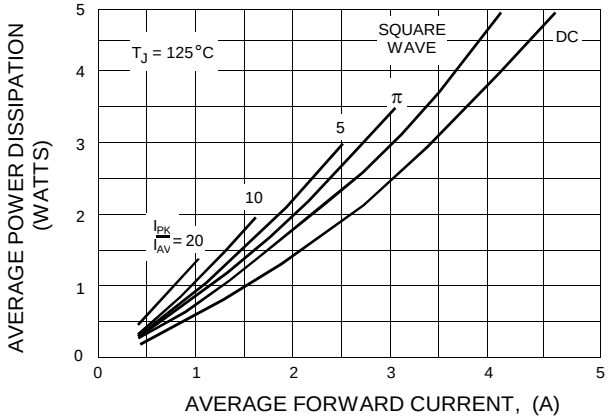


FIG.3 - TYPICAL FORWARD VOLTAGE

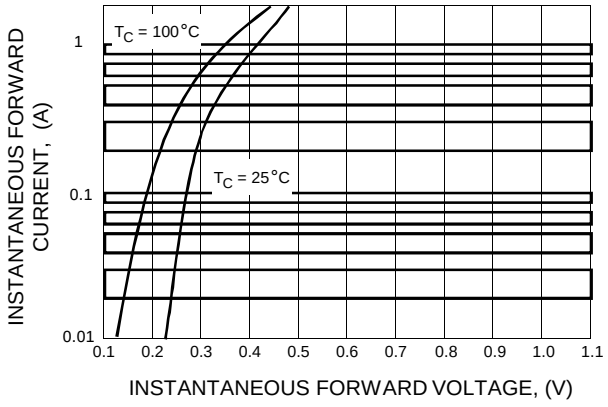


FIG.4 - TYPICAL REVERSE LEAKAGE CURRENT

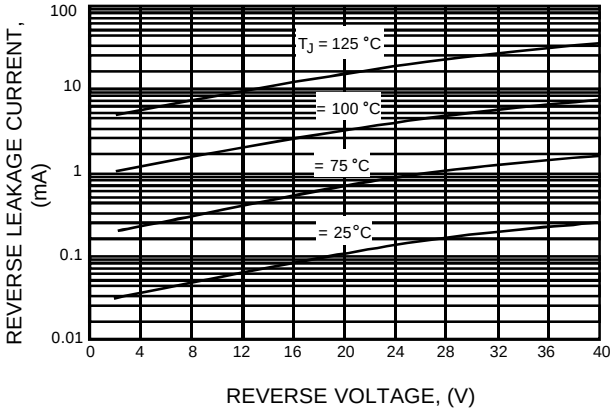


FIG. 5 TYPICAL CAPACITANCE