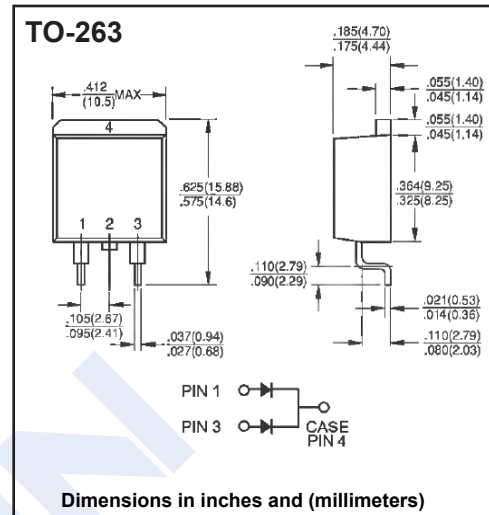


Schottky Diodes

MBRS15H45CT

■ Features

- Low forward voltage drop, Low power loss
- High efficiency
- Meet MSL level 1, per J-STD-020D,
Lead free maximum peak of 245°C
- Solder dip 265°C max, 10s



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Peak Reverse voltage	V_{RM}	45	V
RMS Voltage	V_{RMS}	31	
DC Blocking Voltage	V_R	45	
Average Forward Rectified Current	I_{FAV}	15	A
Peak Repetitive Surge Current (Rated V_R , Square Wave, 20KHz)	I_{FRMS}	15	
Peak forward surge current	I_{FM}	150	
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1	
Voltage Rate of Change, (Rated V_R)	dv/dt	10000	V/us
Thermal Resistance Junction to Case (Note.2)	$R_{\theta JC}$	2	$^\circ\text{C/W}$
Junction Temperature	T_J	175	$^\circ\text{C}$
Storage temperature range	T_{stg}	-65 to 175	

Note.1: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

Note.2: Mount on Heatsink Size of 4" x 6" x 0.25" Al-Plate

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■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_R	$I_R = 0.2\text{mA}$	45			
Forward voltage (Note.3)	V_{F1}	$I_F = 7.5\text{A}, T_a = 25^\circ\text{C}$		0.64	0.68	V
	V_{F2}	$I_F = 7.5\text{A}, T_a = 125^\circ\text{C}$		0.55	0.6	
	V_{F3}	$I_F = 15\text{A}, T_a = 25^\circ\text{C}$		0.76	0.8	
	V_{F4}	$I_F = 15\text{A}, T_a = 125^\circ\text{C}$		0.67	0.7	
Reverse voltage leakage current	I_{R1}	$T_a = 25^\circ\text{C}$		0.3	30	μA
	I_{R2}	$T_a = 125^\circ\text{C}$		0.62	10	mA
Capacitance junction terminals (Note.4)	C_j				290	pF

Note.3: 2.0 μs Pulse Width, F=1.0KHz, Continues 10 Cycles

Note.4: Measure at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

■ Typical Characteristics

FIG.1 FORWARD CURRENT DERATING CURVE

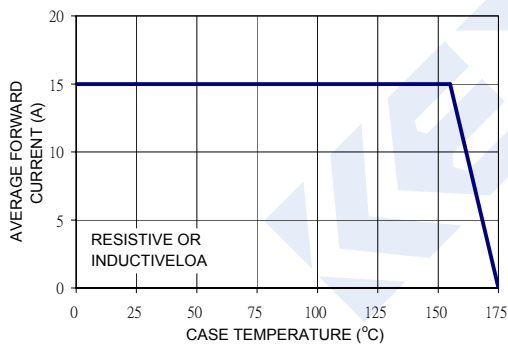


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

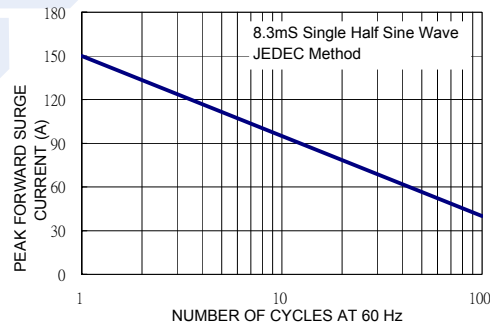


FIG. 3 TYPICAL FORWARD CHARACTERISTICS

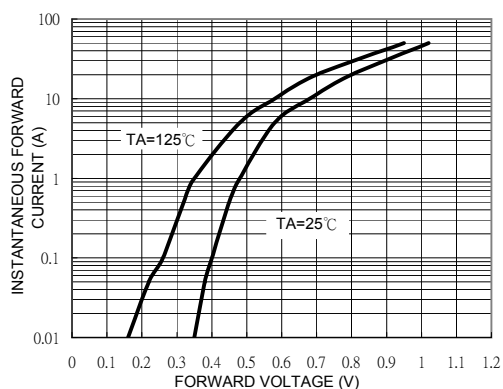
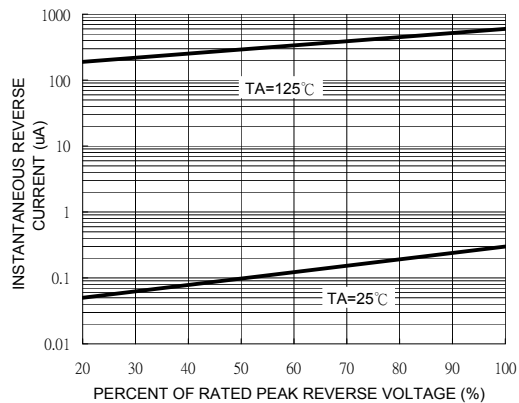


FIG. 4 TYPICAL REVERSE CHARACTERISTICS



Schottky Diodes

MBRS15H45CT

■ Typical Characteristics

