

MBRS10H100CT - MBRS10H200CT

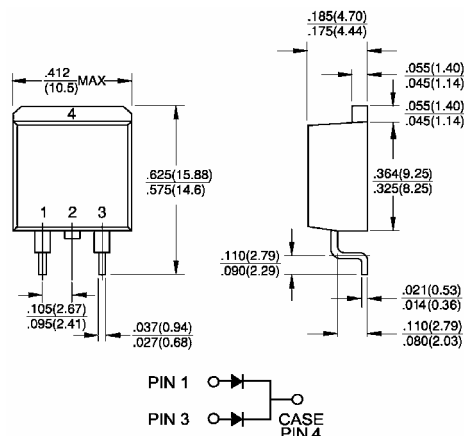
10.0 AMPS. Surface Mount Schottky Barrier Rectifiers Switchmode Power Rectifiers

D²PAK



Features

- ✧ Plastic material used carries Underwriters Laboratory Classifications 94V-0
- ✧ Metal silicon junction, majority carrier conduction
- ✧ Low power loss, high efficiency
- ✧ High current capability, low forward voltage drop
- ✧ High surge capability
- ✧ For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- ✧ Guardring for overvoltage protection
- ✧ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case



Mechanical Data

- ✧ Cases: D2PAK molded plastic
- ✧ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 0.08 ounce, 2.24 grams

Dimensions in inches and (millimeters)

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%

Type Number	Symbol	MBRS 10H100CT	MBRS 10H150CT	MBRS 10H200CT	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	100	150	200	V
Maximum RMS Voltage	V _{RMS}	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	100	150	200	V
Maximum Average Forward Rectified Current at T _C =133°C	I _(AV)	10			A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _C =133°C	I _{FRM}	10			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	120			A
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1.0		0.5	A
Maximum Instantaneous Forward Voltage at (Note 2) I _F = 5A, T _C =25°C I _F = 5A, T _C =125°C I _F =10A, T _C =25°C I _F =10A, T _C =125°C	V _F	0.85 0.75 0.95 0.85	0.88 0.75 0.97 0.85		V
Maximum Instantaneous Reverse Current at Rated DC Blocking Voltage @T _C =25 °C @ T _C =125 °C	I _R	5.0 1.0			uA mA
Voltage Rate of Change, (Rated V _R)	dV/dt	10,000			V/uS
RMS Isolation Voltage (t=1.0 second, R.H. ≤30%, T _A =25 °C) (Note 4) (Note 5) (Note 6)	V _{ISO}	4500 3500 1500			V
Typical Thermal Resistance Per Leg (Note3)	R _{θJC}	3.5			°C/W
Operating Junction Temperature Range	T _J	-65 to +175			°C
Storage Temperature Range	T _{STG}	-65 to +175			°C

- Notes:
- 2.0 μs Pulse Width, $f=1.0$ KHz
 - Pulse Test: 300 μs Pulse Width, 1% Duty Cycle
 - Thermal Resistance from Junction to Case Per Leg.
 - Clip Mounting (on case), where lead does not overlap heatsink with 0.110" offset.
 - Clip mounting (on case), where leads do overlap heatsink.
 - Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19")

RATINGS AND CHARACTERISTIC CURVES (MBRS10H100CT - MBRS10H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

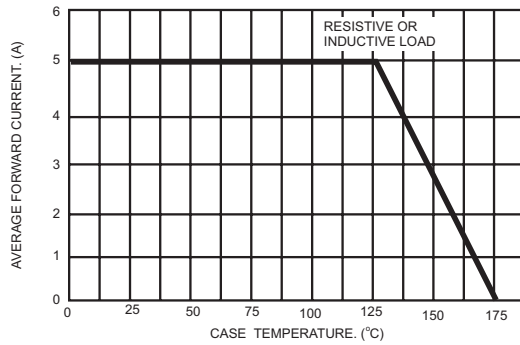


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

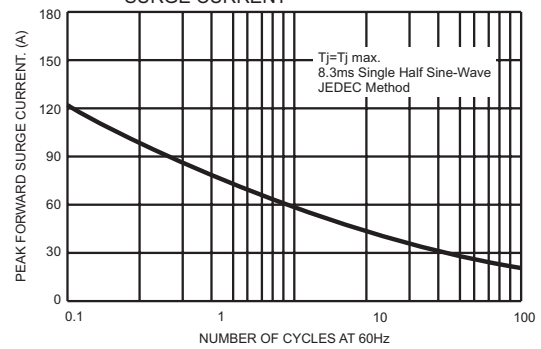


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

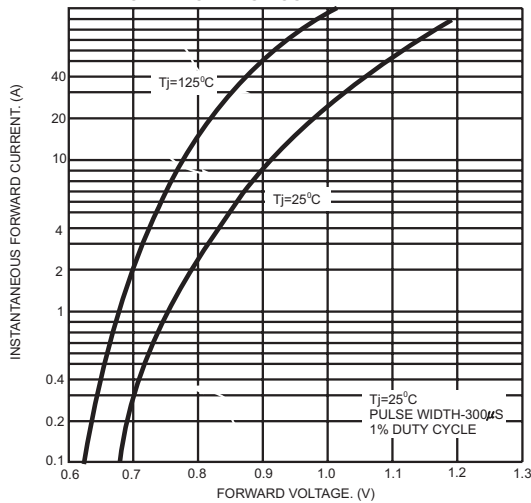


FIG.4- TYPICAL REVERSE CHARACTERISTICS

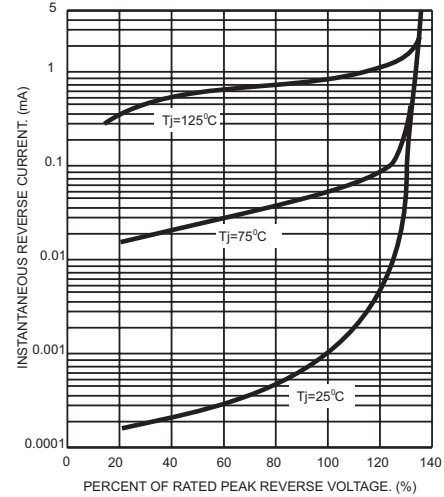


FIG.5- TYPICAL JUNCTION CAPACITANCE

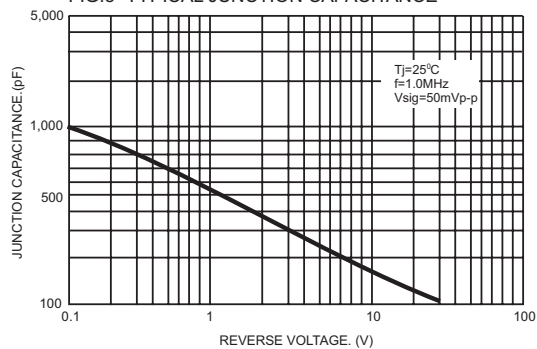


FIG.6- TYPICAL TRANSIENT THERMAL CHARACTERISTICS PER LEG

