

MBRS20H100CT – MBRS20H200CT

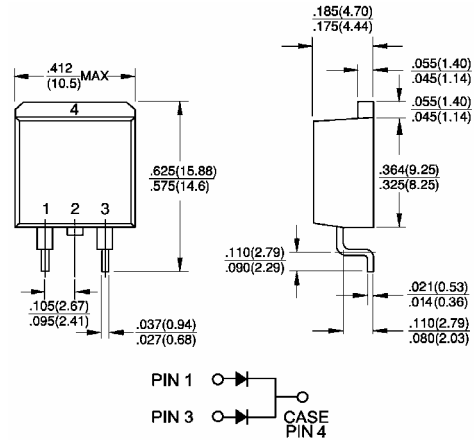
20.0 AMPS. Surface Mount Schottky Barrier
Rectifiers Switchmode Power Rectifiers

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 power supply – output rectification, power management, instrumentation
- ± Guarding for overvoltage protection
- ± High temperature soldering guaranteed:
260°C/10 seconds, 0.25"(6.35mm) from case



Mechanical Data

Dimensions in inches and (millimeters)

- ± 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

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 20H100CT	MBRS 20H150CT	MBRS 20H200CT	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 =125°C	I _(AV)	20			A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20KHz) at T _C =125°C	I _{FRM}	20			A
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I _{FSM}	150			A
Peak Repetitive Reverse Surge Current (Note 1)	I _{RRM}	1.0		0.5	A
Maximum Instantaneous Forward Voltage at: (Note 2) I _F =10A, T _C =25°C I _F =10A, T _C =125°C I _F =20A, T _C =25°C I _F =20A, 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 @ T _C =25 °C at Rated DC Blocking Voltage @ T _C =125 °C (Note 2)	I _R	5 2.0			uA mA
Voltage Rate of Change (Rated V _R)	dV/dt	10,000			V/uS
Maximum Typical Thermal Resistance (Note 3)	R _{θJC}	1.5			°C/W
Operating Junction Temperature Range	T _J	-65 to +175			°C
Storage Temperature Range	T _{STG}	-65 to +175			°C

- Notes:
- 2.0us Pulse Width, $f=1.0$ KHz
 - Pulse Test: 300us Pulse Width, 1% Duty Cycle
 - Thermal Resistance from Junction to Case Per Leg, Mount on Heatsink Size of 2 in x 3 in x 0.25in Al-Plate.

RATINGS AND CHARACTERISTIC CURVES (MBRS20H100CT - MBRS20H200CT)

FIG.1- FORWARD CURRENT DERATING CURVE

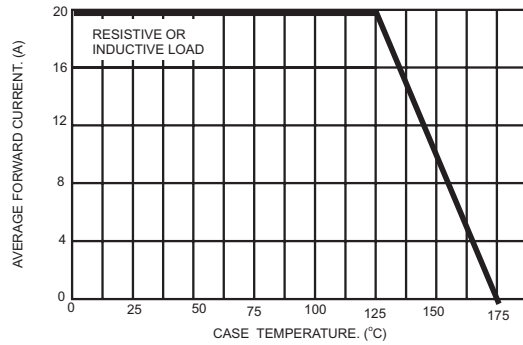


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

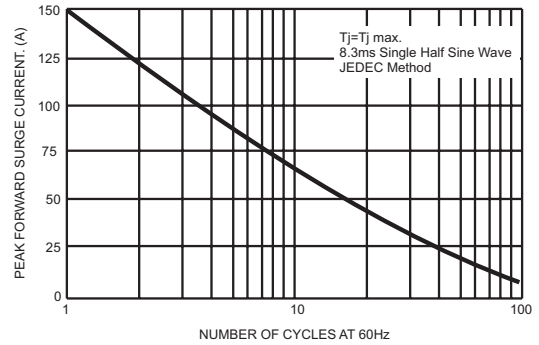


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

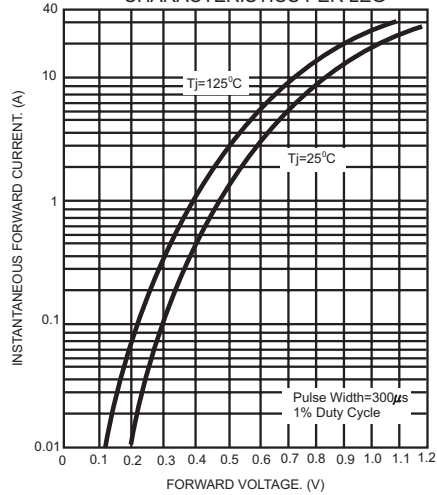


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

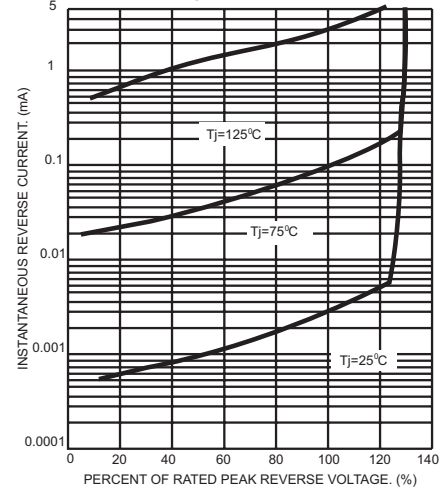


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

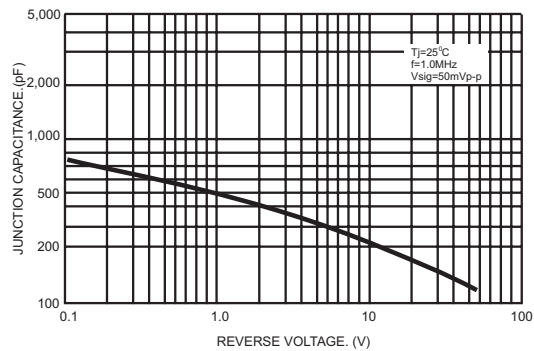


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

