



# MBRS2035CT THRU MBRS20100CT

## 20.0 AMPS. Schottky Barrier Rectifiers



Voltage Range  
35 to 100 Volts  
Current  
20.0 Amperes

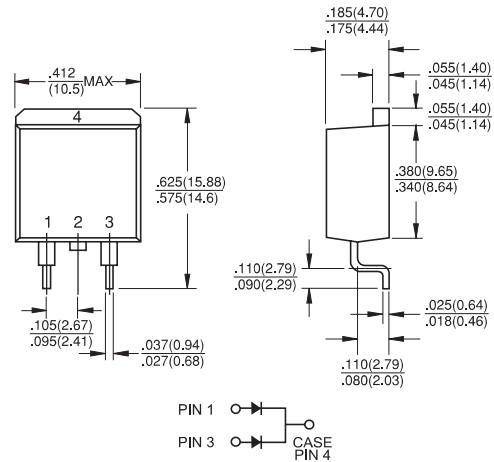
### Features

- ✧ For surface mounted application
- ✧ 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 at terminals

### Mechanical Data

- ✧ Cases: JEDEC D²PAK molded plastic
- ✧ Terminals: Leads solderable per MIL-STD-750, Method 2026
- ✧ Polarity: As marked
- ✧ Mounting position: Any
- ✧ Mounting torque: 5 in. - lbs. max
- ✧ Weight: 0.06 ounce, 1.70 grams

### D²PAK



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 2035CT	MBRS 2045CT	MBRS 2050CT	MBRS 2060CT	MBRS 20100CT	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	100	V	
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	70	V	
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	100	V	
Maximum Average Forward Rectified Current at $T_C=135^\circ\text{C}$	$I_{(AV)}$	20						A
Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20KHz) at $T_C=135^\circ\text{C}$	$I_{FRM}$	20.0						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) $I_F=10\text{A}, T_C=25^\circ\text{C}$ $I_F=10\text{A}, T_C=125^\circ\text{C}$ $I_F=20\text{A}, T_C=25^\circ\text{C}$ $I_F=20\text{A}, T_C=125^\circ\text{C}$	$V_F$	-		0.80		0.85	V	
Maximum Instantaneous Reverse Current @ $T_C=25^\circ\text{C}$ at Rated DC Blocking Voltage @ $T_C=125^\circ\text{C}$	$I_R$	0.1		0.15		150.0	mA mA	
Voltage Rate of Change, (Rated $V_R$ )	$dV/dt$	10,000						V/ $\mu\text{S}$
Typical Thermal Resistance Per Leg (Note 3)	$R_{\theta_{JC}}$	1.5			2.0		$^\circ\text{C}/\text{W}$	
Operating Junction Temperature Range	$T_J$	-65 to +150						$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 to +175						$^\circ\text{C}$

Notes: 1. 2.0 $\mu\text{s}$  Pulse Width,  $f=1.0$  KHz  
2. Pulse Test: 300 $\mu\text{s}$  Pulse Width, 1% Duty Cycle  
3. Thermal Resistance from Junction to Case Per Leg.

RATINGS AND CHARACTERISTIC CURVES (MBRS2035CT THRU MBRS20100CT)

FIG.1- FORWARD CURRENT DERATING CURVE

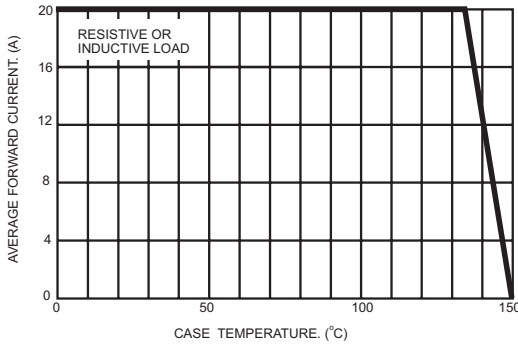


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

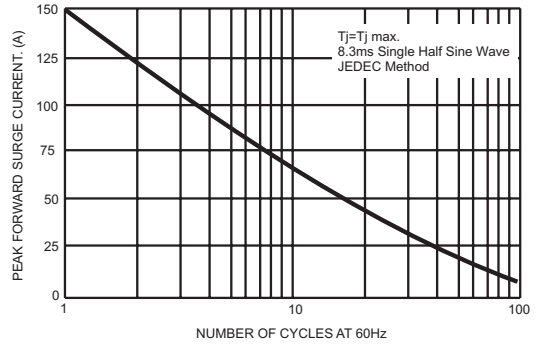


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

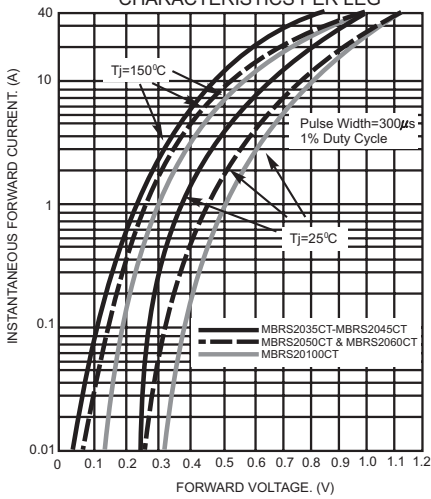


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

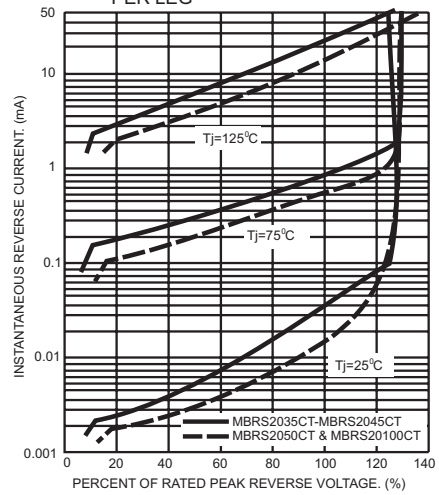


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

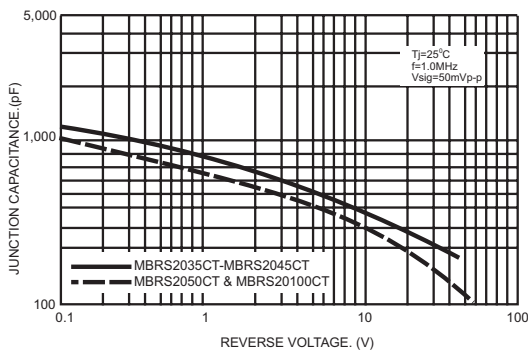


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

