

# MBRS1035CT - MBRS10150CT

## 10.0AMPS Surface Mount Schottky Barrier Rectifiers

### D<sup>2</sup>PAK



**RoHS**  
COMPLIANCE

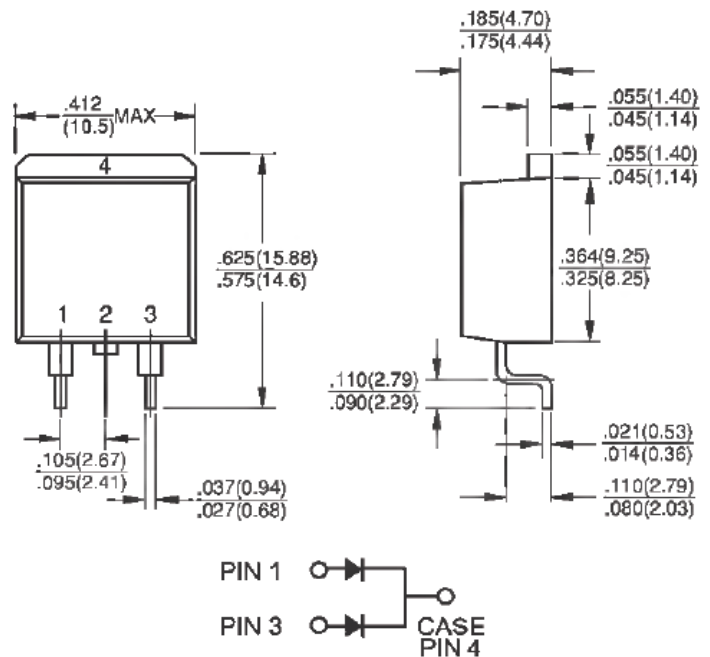


### Features

- ◇ UL Recognized File # E-326854
- ◇ Plastic material used carriers Underwriters Laboratory Classification 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
- ◇ Guard-ring for overvoltage protection
- ◇ High temperature soldering guaranteed: 260°C/10 seconds/.25", (6.35mm) from case
- ◇ Green compound with suffix "G" on packing code & prefix "G" on datecode

### Mechanical Data

- ◇ Case: JEDEC D<sup>2</sup>PAK molded plastic body
- ◇ 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: 1.35 grams



### Dimensions in inches and (millimeters)

#### Marking Diagram



MBRS10XXCT = Specific Device Code  
 G = Green Compound  
 Y = Year  
 WW = Work Week

### 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 1035 CT	MBRS 1045 CT	MBRS 1050 CT	MBRS 1060 CT	MBRS 1090 CT	MBRS 10100 CT	MBRS 10150 CT	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	35	45	50	60	90	100	150	V
Maximum RMS Voltage	$V_{RMS}$	24	31	35	42	63	70	105	V
Maximum DC Blocking Voltage	$V_{DC}$	35	45	50	60	90	100	150	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	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							A
Maximum Instantaneous Forward Voltage (Note 2) IF=5A, TA=25°C IF=5A, TA=125°C IF=10A, TA=25°C IF=10A, TA=125°C	$V_F$	0.70 0.57 0.80 0.67	0.80 0.65 0.90 0.75	0.85 0.75 0.95 0.85	0.88 0.78 0.98 0.88				V
Maximum Reverse Current @ Rated VR TA=25 °C TA=100 °C TA=125°C	$I_R$	0.1		15	10	-	5	mA	
Typical Thermal Resistance	$R_{\theta JC}$	2							°C/W
Operating Temperature Range	$T_J$	- 65 to + 150							°C
Storage Temperature Range	$T_{STG}$	- 65 to + 175							°C

Note 1: 2.0uS Pulse Width, f=1.0KHz

Note 2: Pulse Test : 300uS Pulse Width, 1% Duty Cycle

## RATINGS AND CHARACTERISTIC CURVES (MBRS1035CT THRU MBRS10150CT)

FIG. 1 FORWARD CURRENT DERATING CURVE

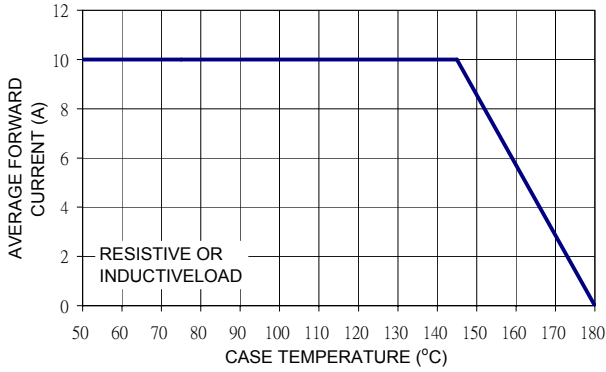


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

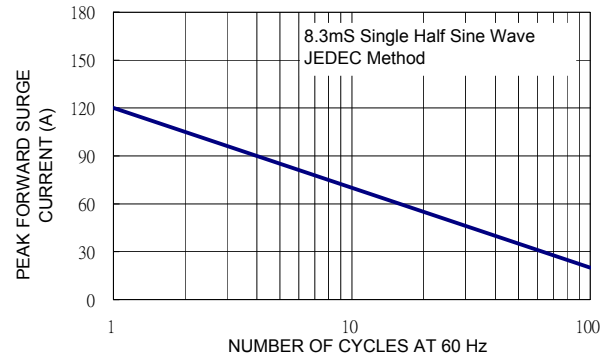


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

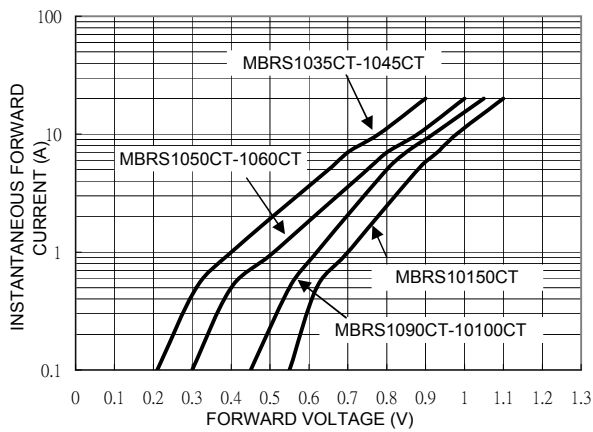


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG

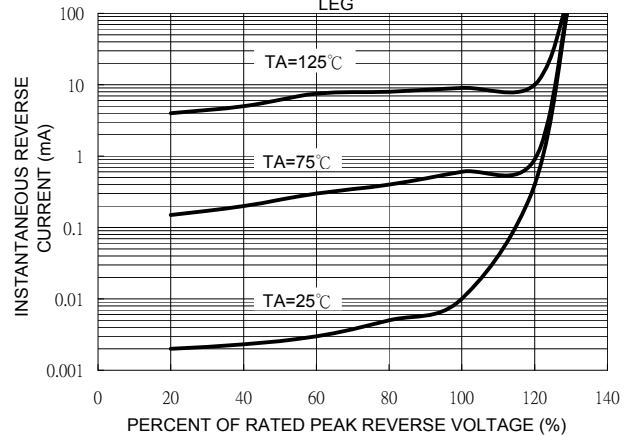


FIG. 5 TYPICAL JUNCTION CAPACITANCE

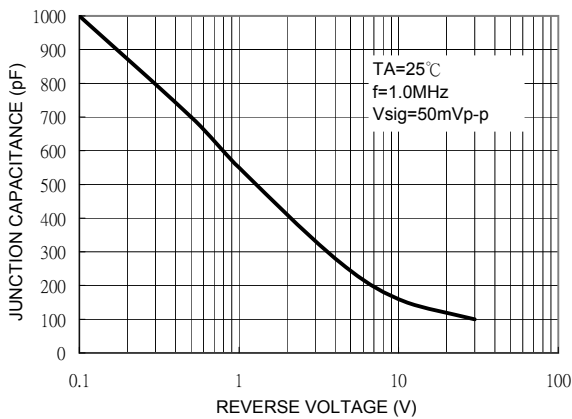


FIG. 6 TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

