

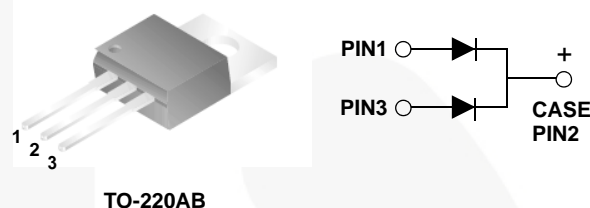
# **MBR2535CT - MBR2560CT** **25 A Schottky Barrier Rectifiers**

## **Features**

- Low Power Loss, High Efficiency
- High Surge Capacity
- Metal Silicon Junction, Majority Carrier Conduction
- High Current Capacity, Low Forward Voltage Drop
- Guard Ring for Over-Voltage Protection (OVP)

## **Applications**

- Low-Voltage, High-Frequency Inverters
- Free Wheeling and Polarity Protection



## **Absolute Maximum Ratings**

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value				Units
		2535CT	2545CT	2550CT	2560CT	
$V_{RRM}$	Maximum Repetitive Reverse Voltage	35	45	50	60	V
$I_{F(AV)}$	Average Rectified Forward Current .375 inch Lead Length at $T_A = 130^\circ\text{C}$	25				A
$I_{FSM}$	Non-Repetitive Peak Forward Surge Current 8.3 ms Single Half-Sine-Wave	200				A
$T_{STG}$	Storage Temperature Range	-65 to +175				$^\circ\text{C}$
$T_J$	Operating Junction Temperature Range	-65 to +150				$^\circ\text{C}$

## **Thermal Characteristics**

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	2.0	W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	60	$^\circ\text{C/W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	1.5	$^\circ\text{C/W}$

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value				Units
		2535CT	2545CT	2550CT	2560CT	
$V_F$	Maximum Forward Voltage, per Leg	$I_F = 12.5\text{A}, T_C = 25^\circ\text{C}$		0.75		V
		$I_F = 12.5\text{A}, T_C = 125^\circ\text{C}$		0.65		
		$I_F = 25\text{A}, T_C = 25^\circ\text{C}$		0.82		
		$I_F = 25\text{A}, T_C = 125^\circ\text{C}$		0.73		
$I_R$	Maximum Reverse Current at Rated $V_{RRM}$ , per Leg	$T_A = 25^\circ\text{C}$		0.2		mA
		$T_A = 125^\circ\text{C}$		15.0		
$I_{RRM}$	Peak Repetitive Reverse Surge Current, per Leg 2.0 $\mu\text{s}$ Pulse Width, $f = 1.0\text{ kHz}$	1.0		0.5		A
$C_j$	Typical Junction Capacitance, per Leg	600		460		pF

## Typical Performance Characteristics

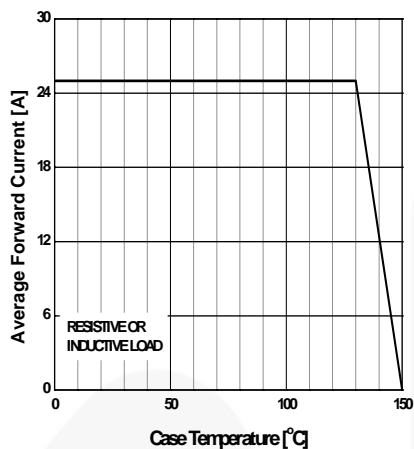


Figure 1. Forward Current Derating Curve

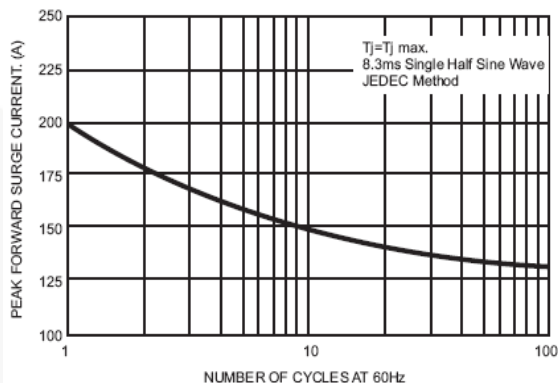


Figure 2. Non-Repetitive Surge Current, per Leg

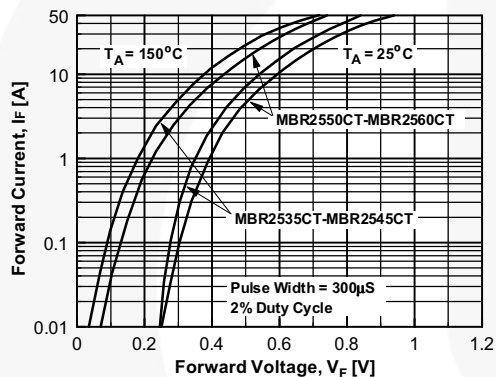


Figure 3. Forward Voltage Characteristics, per Leg

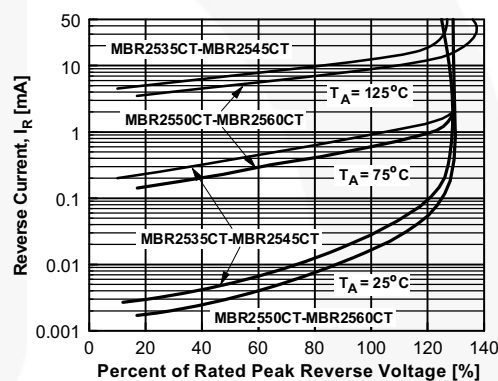


Figure 4. Reverse Current vs. Reverse Voltage, per Leg

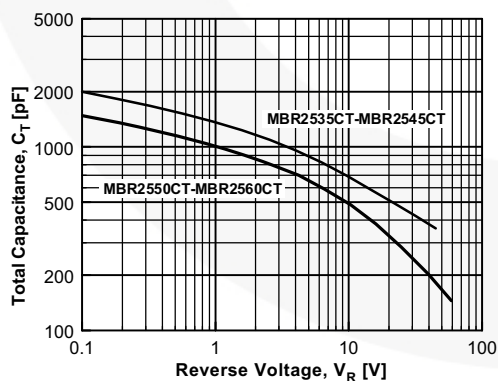


Figure 5. Total Capacitance, per Leg

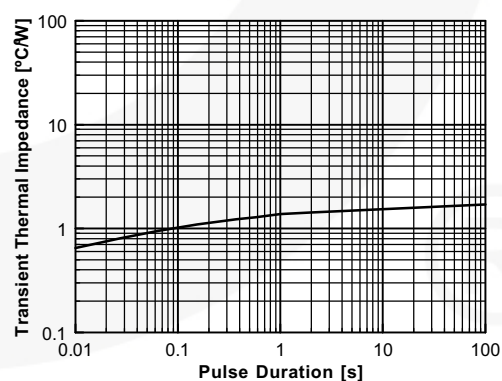
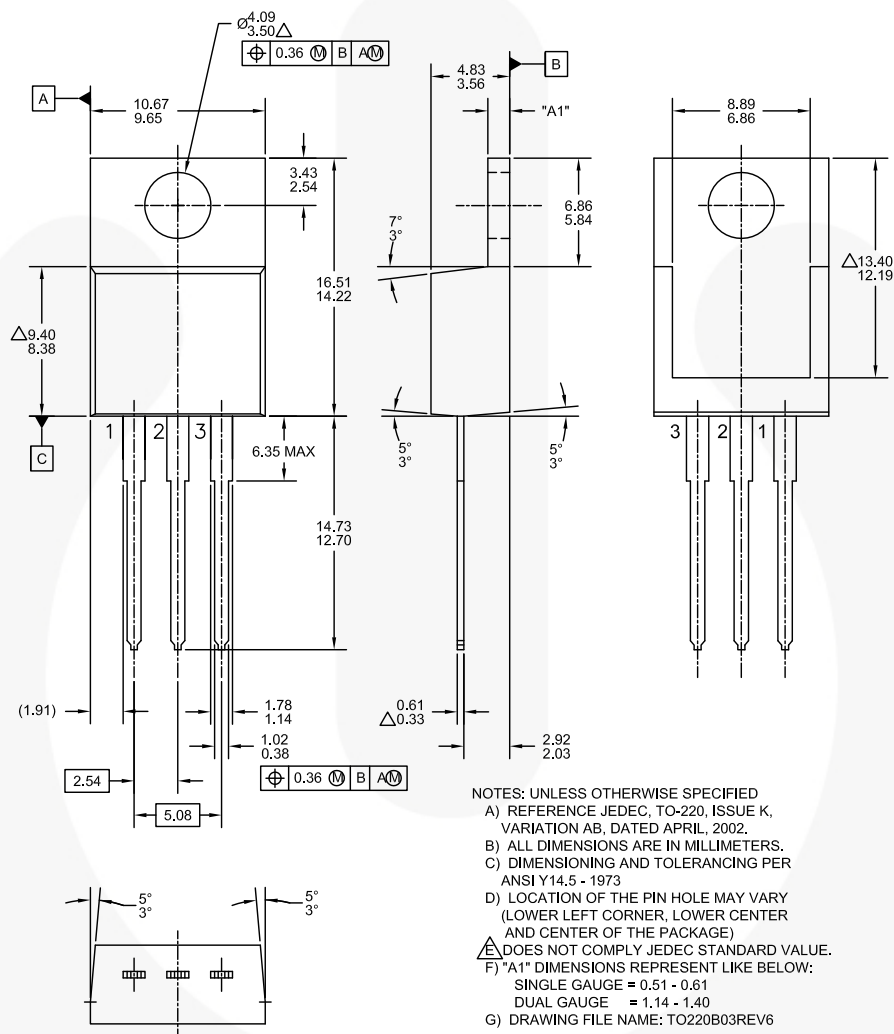


Figure 6. Thermal Impedance Characteristics

# Physical Dimensions

## TO-220 3L



**Figure 7. TO-220, MOLDED, 3-LEAD, JEDEC VARIATION AB (ACTIVE)**

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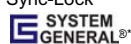



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