

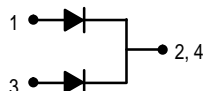
# SWITCHMODE™ Power Rectifiers

... using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Guaranteed Reverse Avalanche

## Mechanical Characteristics:

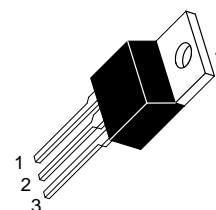
- Case: Epoxy, Molded
- Weight: 1.9 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped 50 units per plastic tube
- Marking: B2535, B2545



**MBR2535CT**  
**MBR2545CT**

MBR2545CT is a  
Motorola Preferred Device

**SCHOTTKY BARRIER  
RECTIFIERS  
30 AMPERES  
35 and 45 VOLTS**



**CASE 221A-06  
TO-220AB  
PLASTIC**

## MAXIMUM RATINGS

Rating	Symbol	MBR2535CT	MBR2545CT	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	35	45	Volts
Average Rectified Forward Current (Rated $V_R$ ) $T_C = 130^\circ\text{C}$	$I_F(AV)$	30	30	Amps
Peak Repetitive Forward Current Per Diode Leg (Rated $V_R$ , Square Wave, 20 kHz) $T_C = 130^\circ\text{C}$	$I_{FRM}$	30	30	Amps
Nonrepetitive Peak Surge Current per Diode Leg (Surge applied at rated load conditions halfwave, single phase, 60 Hz)	$I_{FSM}$	150	150	Amps
Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz)	$I_{RRM}$	1.0	1.0	Amp
Operating Junction Temperature	$T_J$	- 65 to +150	- 65 to +150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	- 65 to +175	- 65 to +175	$^\circ\text{C}$
Voltage Rate of Change (Rated $V_R$ )	$dv/dt$	1000	1000	V/ $\mu\text{s}$

## THERMAL CHARACTERISTICS PER DIODE LEG

Maximum Thermal Resistance, Junction to Case	$R_{\theta JC}$	1.5	1.5	$^\circ\text{C/W}$
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## ELECTRICAL CHARACTERISTICS PER DIODE LEG

Maximum Instantaneous Forward Voltage (1) ( $i_F = 30$ Amps, $T_C = 125^\circ\text{C}$ ) ( $i_F = 30$ Amps, $T_C = 25^\circ\text{C}$ )	$v_F$	0.73 0.82	0.73 0.82	Volts
Maximum Instantaneous Reverse Current (1) (Rated dc Voltage, $T_C = 125^\circ\text{C}$ ) (Rated dc Voltage, $T_C = 25^\circ\text{C}$ )	$i_R$	40 0.2	40 0.2	mA

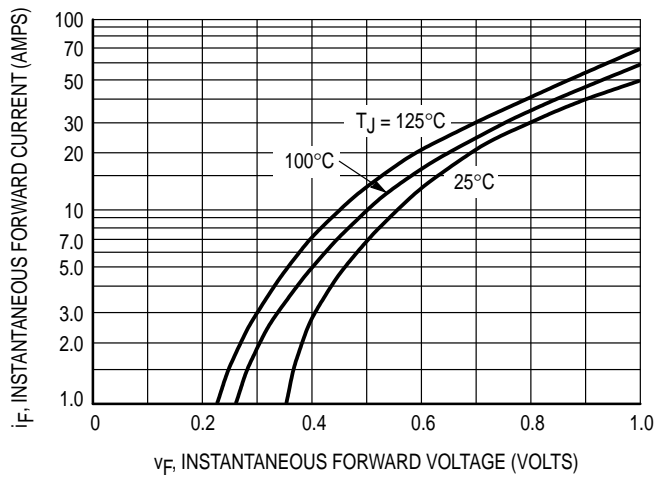
(1) Pulse Test: Pulse Width = 300  $\mu\text{s}$ , Duty Cycle  $\leq 2.0\%$ .

SWITCHMODE is a trademark of Motorola, Inc.

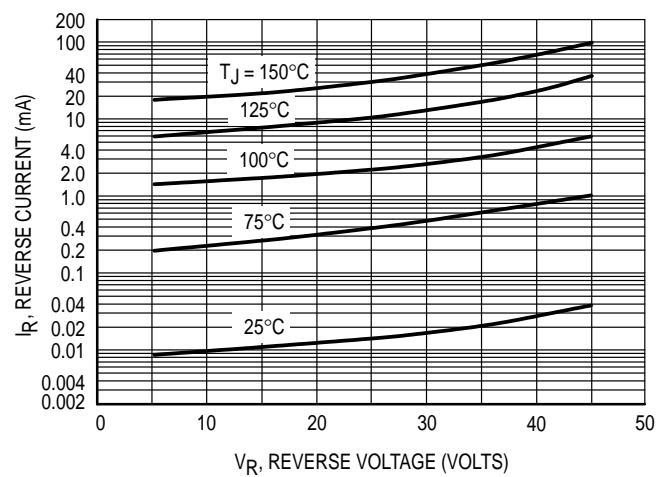
Preferred devices are Motorola recommended choices for future use and best overall value.



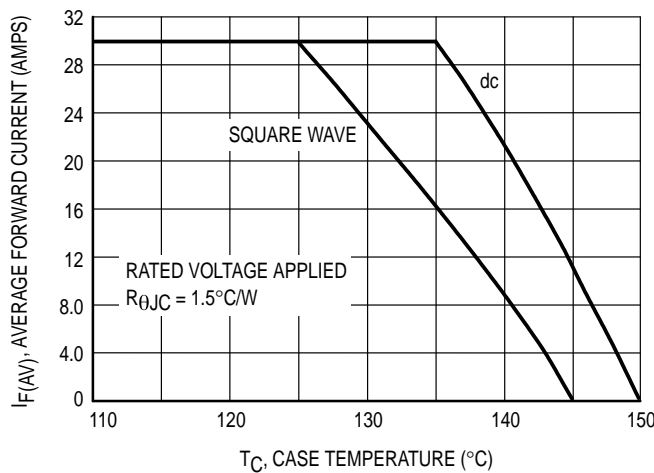
# **MBR2535CT MBR2545CT**



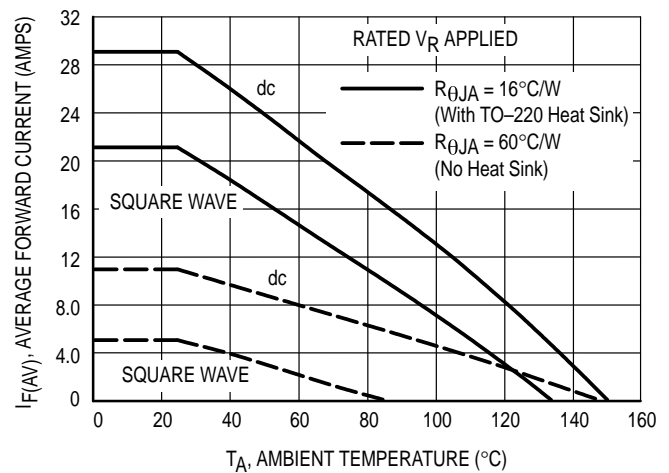
**Figure 1. Typical Forward Voltage**



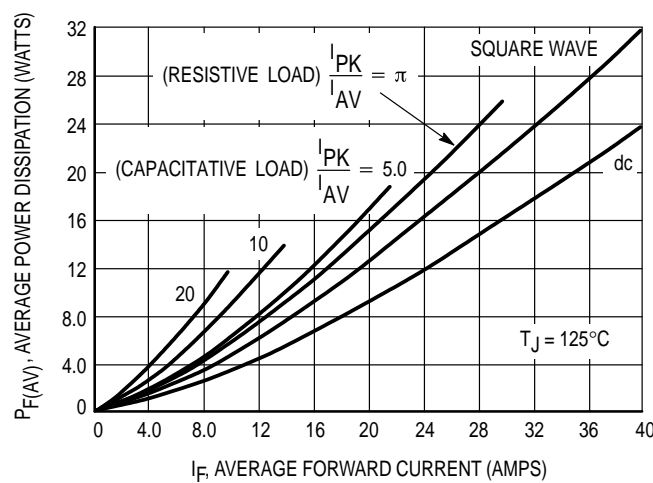
**Figure 2. Typical Reverse Current**



**Figure 3. Current Derating, Case**

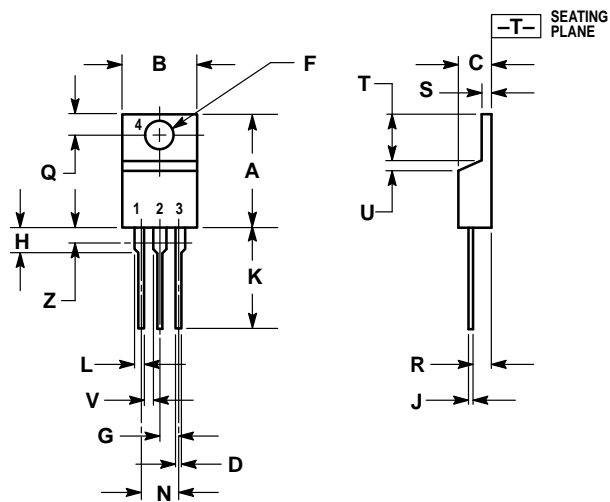


**Figure 4. Current Derating, Ambient**



**Figure 5. Forward Power Dissipation**


PACKAGE DIMENSIONS



- NOTES:
- 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
  - 2. CONTROLLING DIMENSION: INCH.
  - 3. DIMENSION Z DEFINES A ZONE WHERE ALL BODY AND LEAD IRREGULARITIES ARE ALLOWED.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.570	0.620	14.48	15.75
B	0.380	0.405	9.66	10.28
C	0.160	0.190	4.07	4.82
D	0.025	0.035	0.64	0.88
F	0.142	0.147	3.61	3.73
G	0.095	0.105	2.42	2.66
H	0.110	0.155	2.80	3.93
J	0.018	0.025	0.46	0.64
K	0.500	0.562	12.70	14.27
L	0.045	0.060	1.15	1.52
N	0.190	0.210	4.83	5.33
Q	0.100	0.120	2.54	3.04
R	0.080	0.110	2.04	2.79
S	0.045	0.055	1.15	1.39
T	0.235	0.255	5.97	6.47
U	0.000	0.050	0.00	1.27
V	0.045	—	1.15	—
Z	—	0.080	—	2.04

CASE 221A-06  
(TO-220AB)  
ISSUE Y

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◇ CODELINE TO BE PLACED HERE

**MBR2535CT/D**