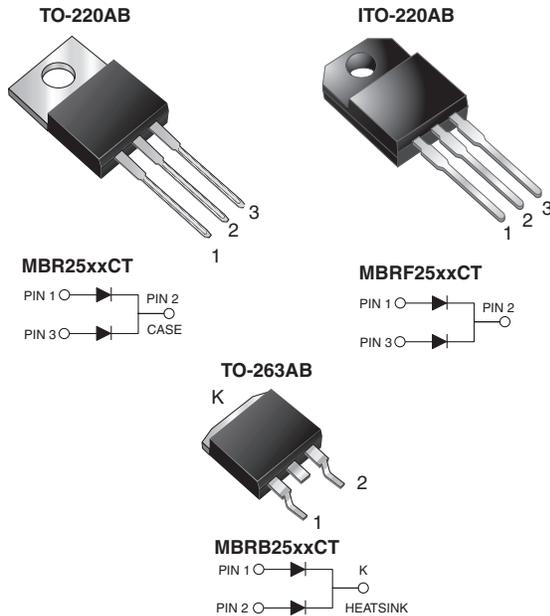


Dual Common-Cathode Schottky Rectifier



FEATURES

- Guardring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020C, LF maximum peak of 245 °C (for TO-263AB package)
- Solder dip 260 °C, 40 s (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



RoHS
COMPLIANT

TYPICAL APPLICATIONS

For use in low voltage, high frequency rectifier of switching mode power supplies, freewheeling diodes, dc-to-dc converters or polarity protection application.

MECHANICAL DATA

Case: TO-220AB, ITO-220AB, TO-263AB

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D

E3 suffix for consumer grade, meets JESD 201 class 1A whisker test, HE3 suffix for high reliability grade (AEC Q101 qualified), meets JESD 201 class 2 whisker test

Polarity: As marked

Mounting Torque: 10 in-lbs maximum

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	15 A x 2
V_{RRM}	35 V to 60 V
I_{FSM}	150 A
V_F	0.73 V at 30 A, 0.65 V at 15 A
$T_J \text{ max.}$	150 °C

MAXIMUM RATINGS ($T_C = 25\text{ °C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	V
Working peak reverse voltage	V_{RWM}	35	45	50	60	
Maximum DC blocking voltage	V_{DC}	35	45	50	60	
Maximum average forward rectified current total device at $T_C = 130\text{ °C}$ per diode	$I_{F(AV)}$	30 15				A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I_{FSM}	150				A
Peak repetitive reverse surge current per diode at $t_p = 2\text{ }\mu\text{s}$, 1 kHz	I_{RRM}	1.0		0.5		
Peak non-repetitive reverse energy (8/20 μs waveform) per diode	E_{RSM}	25				mJ
Electrostatic discharge capacitor voltage human body model: $C = 100\text{ pF}$, $R = 1.5\text{ k}\Omega$	V_C	25				kV

MBR(F,B)2535CT thru MBR(F,B)2560CT

Vishay General Semiconductor



MAXIMUM RATINGS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	UNIT
Voltage rate of change (rated V_R)	dV/dt	10 000				V/ μs
Operating junction temperature range	T_J	- 65 to + 150				$^\circ\text{C}$
Storage temperature range	T_{STG}	- 65 to + 175				
Isolation voltage (ITO-220AB only) from terminal to heatsink $t = 1\text{ min}$	V_{AC}	1500				V

ELECTRICAL CHARACTERISTICS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
PARAMETER	TEST CONDITIONS		SYMBOL	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	UNIT
Maximum instantaneous forward voltage per diode ⁽¹⁾	$I_F = 15\text{ A}$	$T_C = 25\text{ }^\circ\text{C}$	V_F	-	-	0.75	-	V
	$I_F = 15\text{ A}$	$T_C = 125\text{ }^\circ\text{C}$		-	-	0.65	-	
	$I_F = 30\text{ A}$	$T_C = 25\text{ }^\circ\text{C}$		0.82	-	-	-	
	$I_F = 30\text{ A}$	$T_C = 125\text{ }^\circ\text{C}$		0.73	-	-	-	
Maximum instantaneous reverse current at blocking voltage per diode ⁽¹⁾		$T_C = 25\text{ }^\circ\text{C}$ $T_C = 125\text{ }^\circ\text{C}$	I_R	0.2 40	-	1.0 50	-	mA

Note:

(1) Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS ($T_C = 25\text{ }^\circ\text{C}$ unless otherwise noted)						
PARAMETER	SYMBOL	MBR	MBRF	MBRB	UNIT	
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	1.5	4.5	1.5	$^\circ\text{C/W}$	

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-220AB	MBR2545CT-E3/45	1.85	45	50/tube	Tube
ITO-220AB	MBRF2545CT-E3/45	1.99	45	50/tube	Tube
TO-263AB	MBRB2545CT-E3/45	1.35	45	50/tube	Tube
TO-263AB	MBRB2545CT-E3/81	1.35	81	800/reel	Tape reel
TO-220AB	MBR2545CTHE3/45 ⁽¹⁾	1.85	45	50/tube	Tube
ITO-220AB	MBRF2545CTHE3/45 ⁽¹⁾	1.99	45	50/tube	Tube
TO-263AB	MBRB2545CTHE3/45 ⁽¹⁾	1.35	45	50/tube	Tube
TO-263AB	MBRB2545CTHE3/81 ⁽¹⁾	1.35	81	800/reel	Tape reel

Note:

(1) Automotive grade AEC Q101 qualified

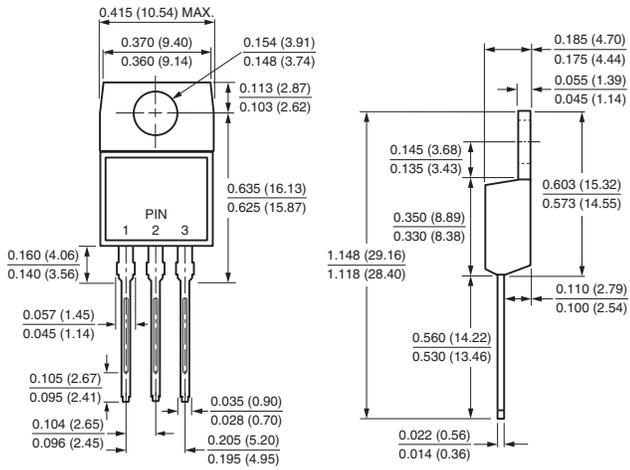
MBR(F,B)2535CT thru MBR(F,B)2560CT

Vishay General Semiconductor

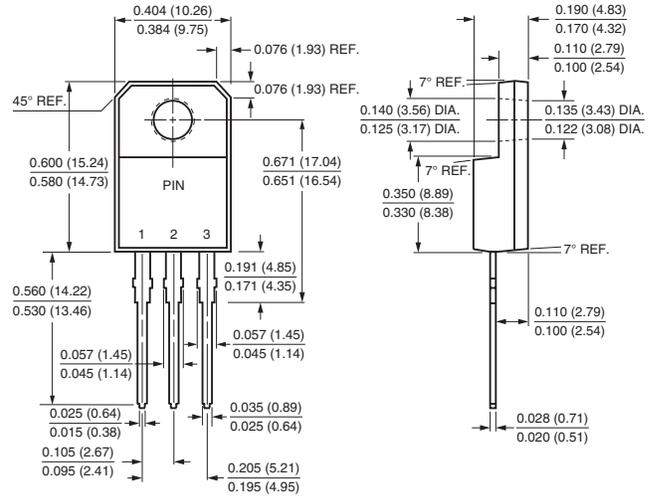


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

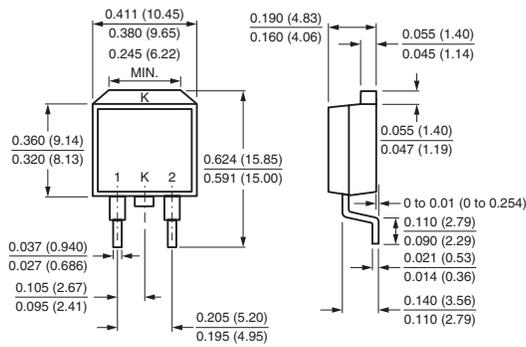
TO-220AB



ITO-220AB



TO-263AB



Mounting Pad Layout

