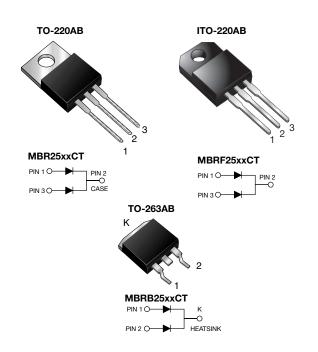




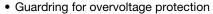
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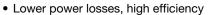
Dual Common-Cathode Schottky Rectifier



PRIMARY CHARACTERISTICS					
I _{F(AV)}	2 x 15 A				
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 max.	150 °C				

FEATURES







• High forward surge capability

• High frequency operation

 Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for TO-263AB package)

Solder dip 260 °C, 40 s (for TO-220AB and ITO-220AB package)

 Complant to RoHS 2002/95/EC and in accordance to WEEE 2002/96/EC

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 94 V-0 flammability rating

Terminals: Matte tin plated leads, solderable per

J-STD-002 and JESD22-B102

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

MAXIMUM RATINGS (T _C = 25 °C unless otherwise noted)							
PARAMETER		MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	UNIT	
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60		
Working peak reverse voltage	V_{RWM}	35	45	50	60	V	
Maximum DC blocking voltage	V_{DC}	35	45	50	60		
Maximum average forward rectified current total dev		30				A	
at T _C = 130 °C per diod	e I _{F(AV)}	15					
Peak forward surge current 8.3 ms single half sine-way superimposed on rated load per diode	e I _{FSM}	150			А		
Peak repetitive reverse surge current per diode at t _p = 2 µs, 1 kHz	I _{RRM}	1.0 0.5		.5	A		
Peak non-repetitive reverse energy (8/20 µs waveform) per diode		25				mJ	
Electrostatic discharge capacitor voltage human body model: C = 100 pF, R = 1.5 k Ω	V _C	25			kV		
Voltage rate of change (rated V _R)		10 000			V/µs		

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

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MAXIMUM RATINGS (T _C = 25 °C unless otherwise noted)							
PARAMETER	SYMBOL MBR2535CT MBR2545CT MBR2550CT MBR2560CT						
Operating junction temperature range	TJ	- 65 to + 150				°C	
Storage temperature range	T _{STG}	- 65 to + 175					
Isolation voltage (ITO-220AB only) from terminal to heatsink t = 1 min	V _{AC}	1500			V		

ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)									
PARAMETER	TEST CONDITIONS		SYMBOL	MBR2535CT	MBR2545CT	MBR2550CT	MBR2560CT	UNIT	
Maximum instantaneous forward voltage per diode	I 15 A	T _C = 25 °C		-		0.75			
	I _F = 15 A	T _C = 125 °C	V _F ⁽¹⁾	-		0.65		V	
	I _F = 30 A	T _C = 25 °C		0.82		-			
	IF = 30 A	T _C = 125 °C		0.73		-			
Maximum instantaneous		T _C = 25 °C		0.2		1.0		4	
reverse current at blocking voltage per diode		T _C = 125 °C	I _R ⁽¹⁾	4	.0	5	0	mA	

Note

 $^{^{(1)}\,}$ Pulse test: 300 μs pulse width, 1 % duty cycle

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)						
PARAMETER SYMBOL MBR MBRF MBRB UN						
Typical thermal resistance from junction to case per diode	$R_{\theta JC}$	1.5	4.5	1.5	°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 and reel		
TO-220AB	MBR2545CT-E3/4W	1.85	4W	50/tube	Tube		
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 and reel		

Note

(1) AEC-Q101 qualified

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RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

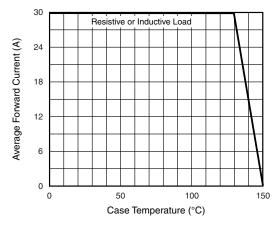


Fig. 1 - Forward Current Derating Curve

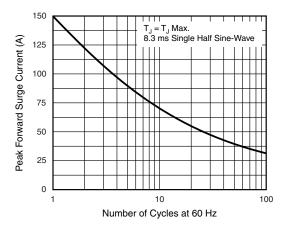


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

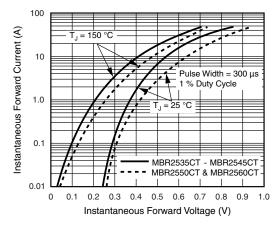


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

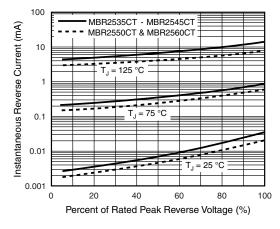


Fig. 4 - Typical Reverse Characteristics Per Diode

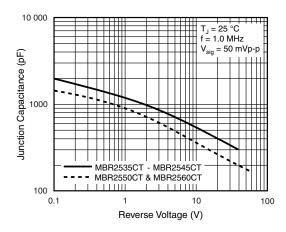


Fig. 5 - Typical Junction Capacitance Per Diode

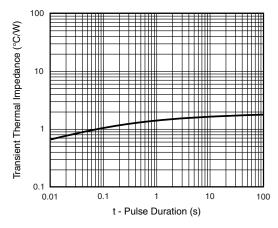


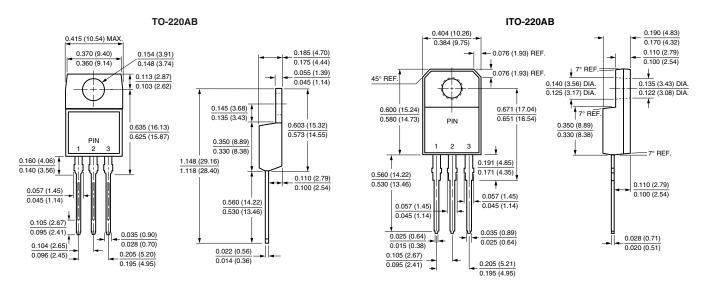
Fig. 6 - Typical Transient Thermal Impedance Per Diode

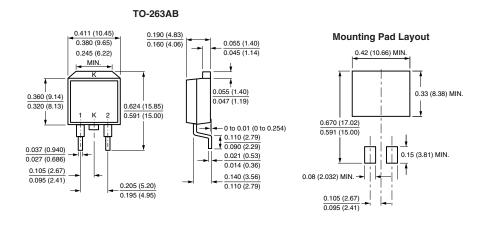
MBR(F,B)2535CT thru MBR(F,B)2560CT

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PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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