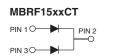
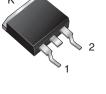
MBRF15xxCT, MBRB15xxCT

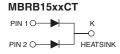
Vishay General Semiconductor

Dual Common Cathode Schottky Rectifier

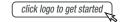
ITO-220AB D²PAK (TO-263AB)







DESIGN SUPPORT TOOLS





PRIMARY CHARACTERISTICS					
I _{F(AV)}	2 x 7.5 A				
V _{RRM}	45 V, 60 V				
I _{FSM}	150 A				
V _F	0.57 V, 0.65 V				
T _J max.	150 °C				
Package	ITO-220AB, D ² PAK (TO-263AB)				
Circuit configuration	Common cathode				

FEATURES

Power pack





- Low power loss, high efficiency
- Low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C (for D²PAK (TO-263AB)) package
- Solder bath temperature 275 °C maximum, 10 s, per JESD 22-B106 (for ITO-220AB package)
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

For use in high frequency rectifier of switching mode power supplies, freewheeling diodes, DC/DC converters, or polarity protection application.

MECHANICAL DATA

Case: ITO-220AB, D2PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating Base P/N-E3 - RoHS-compliant, commercial grade Base P/NHE3 X - RoHS-compliant, AEC-Q101 qualified ("_X" denotes revision code, e.g. A, B,...)

Terminals: matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: as marked

Mounting Torque: 10 in-lbs maximum

PARAMETER			MBRB1545CT	MBRB1560CT	UNIT	
Maximum repetitive peak reverse voltage		V_{RRM}	45	60		
Working peak reverse voltage		V_{RWM}	45	60	V	
Maximum DC blocking voltage		V_{DC}	45	60	1	
Maximum average forward rectified current at $T_c = 105 ^{\circ}\text{C}$	total device		15			
	per diode	I _{F(AV)}	7.5			
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode		I _{FSM}	150		А	
Peak repetitive reverse surge current per diode at t _p = 2.0 µs, 1 kHz		I _{RRM}	1.0	0.5		
Voltage rate of change (rated V _R)		dV/dt	10	000	V/µs	
Operating junction temperature range		T_J	-65 to	+150	့င	
Storage temperature range		T _{STG}	-65 to +175			
Isolation voltage (ITO-220AB only) from terminal to heatsink t = 1 min		V_{AC}	1500		V	

MBRF15xxCT, MBRB15xxCT

Vishay General Semiconductor

ELECTRICAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)								
PARAMETER	SYMBOL	TEST CONDITIONS		MBRB1545CT	MBRB1560CT	UNIT		
Maximum instantaneous forward voltage per diode	V _F ⁽¹⁾	I _F = 7.5 A	T _C = 25 °C	-	0.75	. v		
		I _F = 7.5 A	T _C = 125 °C	0.57	0.65			
		I _F = 15 A	T _C = 25 °C	0.84	-			
		I _F = 15 A	T _C = 125 °C	0.72	-			
Maximum instantaneous reverse current at DC blocking voltage per diode	I _R ⁽²⁾	I _R ⁽²⁾ Rated V _R	T _C = 25 °C	0.1	1.0	- mA		
			T _C = 125 °C	15	50			

Notes

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

(2) Pulse test: pulse width \leq 40 ms

THERMAL CHARACTERISTICS (T _C = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	MBRF	MBRB	UNIT	
Maximum thermal resistance per diode	$R_{\theta JA}$	-	60	°C/W	
	$R_{\theta JC}$	5.0	3.0		

ORDERING INFORMATION (Example)							
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE		
ITO-220AB	MBRF1545CT-E3/45	1.99	45	50/tube	Tube		
TO-263AB	MBRB1545CT-E3/45	1.35	45	50/tube	Tube		
TO-263AB	MBRB1545CT-E3/81	1.35	81	800/reel	Tape and reel		
ITO-220AB	MBRF1545CTHE3_A/P (1)	1.99	Р	50/tube	Tube		
TO-263AB	MBRB1545CTHE3_B/P (1)	1.35	Р	50/tube	Tube		
TO-263AB	MBRB1545CTHE3_B/I (1)	1.35	I	800/reel	Tape and reel		

Note

(1) AEC-Q101 qualified

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RATINGS AND CHARACTERISTICS CURVES (T_C = 25 °C unless otherwise noted)

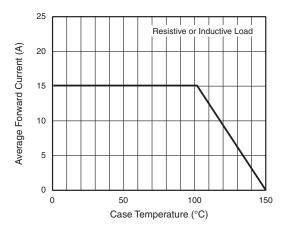


Fig. 1 - Forward Current Derating Curve

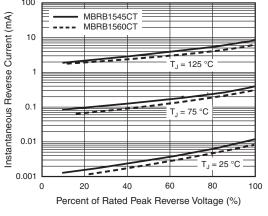


Fig. 4 - Typical Reverse Characteristics Per Diode

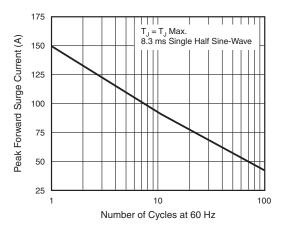


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

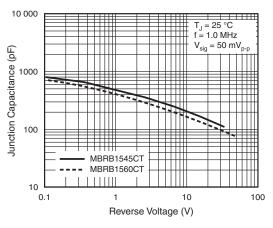


Fig. 5 - Typical Junction Capacitance Per Diode

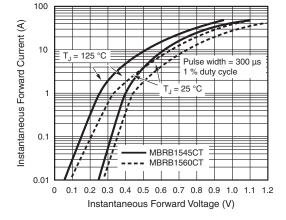


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

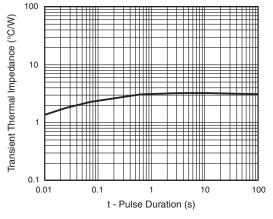
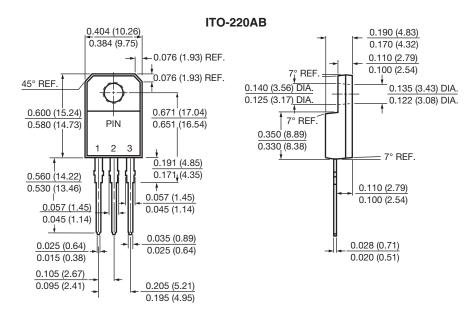


Fig. 6 - Typical Transient Thermal Impedance Per Diode

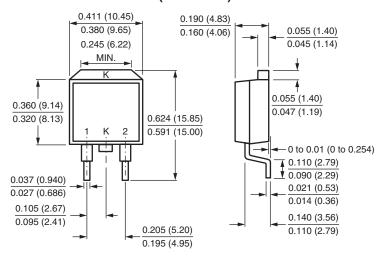


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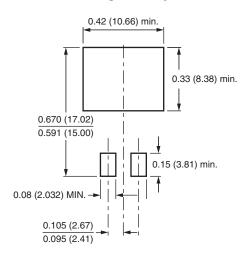
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



D²PAK (TO-263AB)



Mounting Pad Layout





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