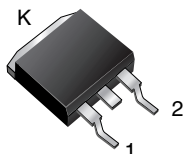
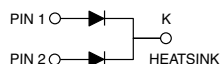


## Dual Common Cathode Schottky Rectifier

D<sup>2</sup>PAK (TO-263AB)

**MBRB3045CT**


### DESIGN SUPPORT TOOLS AVAILABLE



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 15 A
$V_{RRM}$	45 V
$I_{FSM}$	200 A
$V_F$	0.60 V
$T_J \text{ max.}$	150 °C
Package	D <sup>2</sup> PAK (TO-263AB)
Circuit configurations	Common cathode

### FEATURES

- Power pack
- Guardring for overvoltage protection
- 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
- AEC-Q101 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### TYPICAL APPLICATIONS

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

### MECHANICAL DATA

**Case:** D<sup>2</sup>PAK (TO-263AB)

Molding compound meets UL 94 V-0 flammability rating  
Base P/N-M3 - RoHS-compliant, halogen-free, commercial grade

Base P/NHM3 - RoHS-compliant, halogen-free, AEC-Q101 qualified

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

M3 suffix meets JESD 201 class 1A whisker test, HM3 suffix meets JESD 201 class 2 whisker test

**Polarity:** as marked



MAXIMUM RATINGS ( $T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	MBRB3045CT	UNIT
Maximum repetitive peak reverse voltage	$V_{RRM}$	45	V
Working peak reverse voltage	$V_{RWM}$	45	
Maximum DC blocking voltage	$V_{DC}$	45	
Maximum average forward rectified current	$I_{F(AV)}$	30	A
total device per diode		15	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	200	
Peak repetitive reverse current per diode at $t_p = 2.0\text{ }\mu\text{s}$ , 1 kHz	$I_{RRM}$	2.0	
Voltage rate of change (rated $V_R$ )	$dV/dt$	10 000	V/ $\mu\text{s}$
Operating junction temperature range	$T_J$	-65 to +150	$^{\circ}\text{C}$
Storage temperature range	$T_{STG}$	-65 to +175	

ELECTRICAL CHARACTERISTICS ( $T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUE	UNIT
Maximum instantaneous forward voltage per diode	$V_F^{(1)}$	$I_F = 20\text{ A}$	$T_C = 125^{\circ}\text{C}$	0.60	V
		$I_F = 30\text{ A}$	$T_C = 25^{\circ}\text{C}$	0.76	
		$I_F = 30\text{ A}$	$T_C = 125^{\circ}\text{C}$	0.72	
Maximum instantaneous reverse current at DC blocking voltage per diode	$I_R^{(1)}$	Rated $V_R$	$T_J = 25\text{ }^{\circ}\text{C}$	1.0	mA
			$T_J = 125\text{ }^{\circ}\text{C}$	60	

**Notes**<sup>(1)</sup> Pulse test: 300  $\mu\text{s}$  pulse width, 1 % duty cycle<sup>(2)</sup> Pulse test: pulse width  $\leq 40\text{ ms}$ 

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

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
TO-263AB	MBRB3045CT-M3/P	1.35	P	50/tube	Tube
TO-263AB	MBRB3045CT-M3/I	1.35	I	800/reel	Tape and reel
TO-263AB	MBRB3045CTHM3/P <sup>(1)</sup>	1.35	P	50/tube	Tube
TO-263AB	MBRB3045CTHM3/I <sup>(1)</sup>	1.35	I	800/reel	Tape and reel

**Note**<sup>(1)</sup> AEC-Q101 qualified

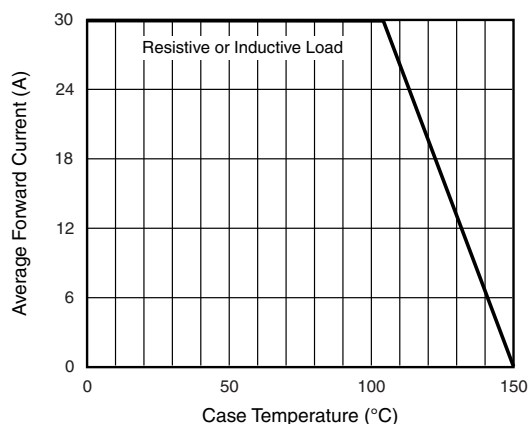
**RATINGS AND CHARACTERISTICS CURVES** ( $T_C = 25\text{ }^{\circ}\text{C}$  unless otherwise noted)


Fig. 1 - Forward Current Derating Curve

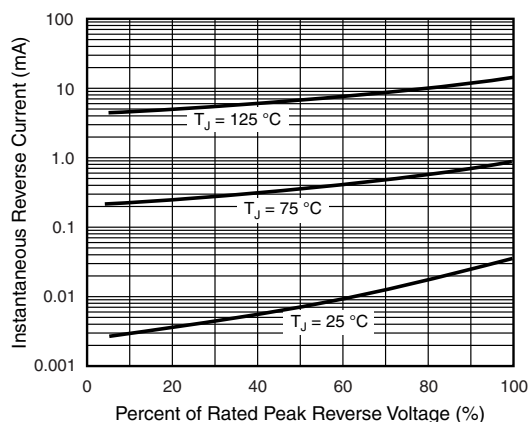


Fig. 4 - Typical Reverse Characteristics Per Diode

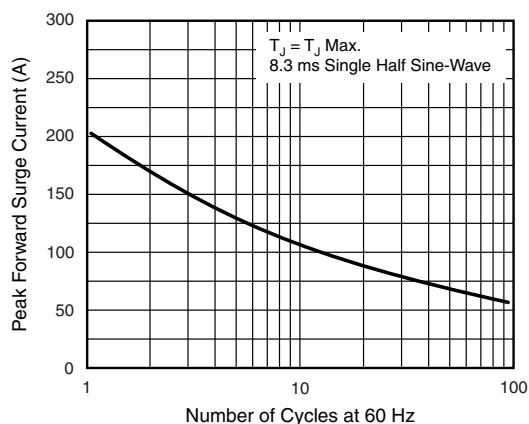


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

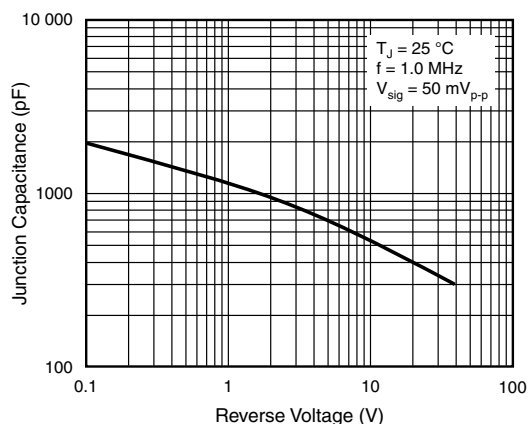


Fig. 5 - Typical Junction Capacitance Per Diode

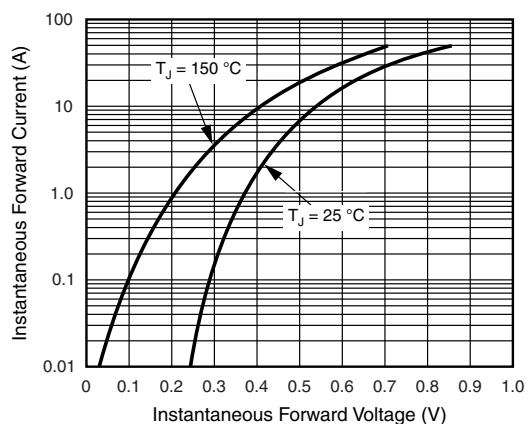


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

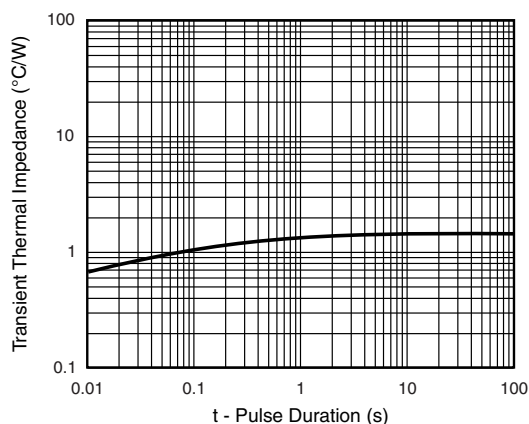
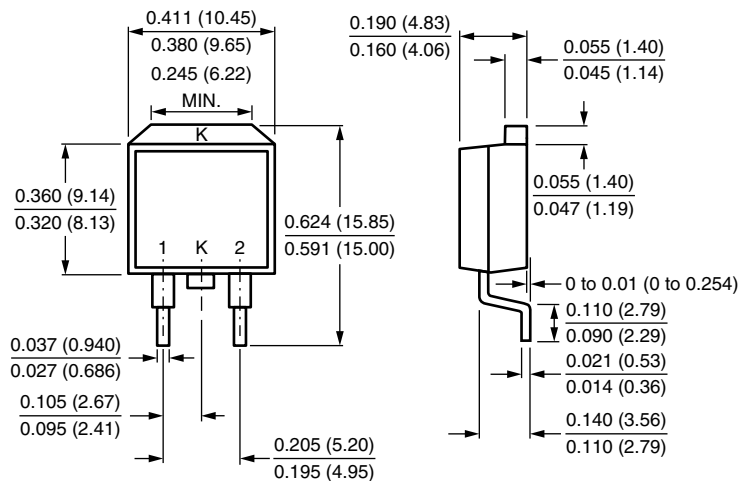


Fig. 6 - Typical Transient Thermal Impedance Per Diode

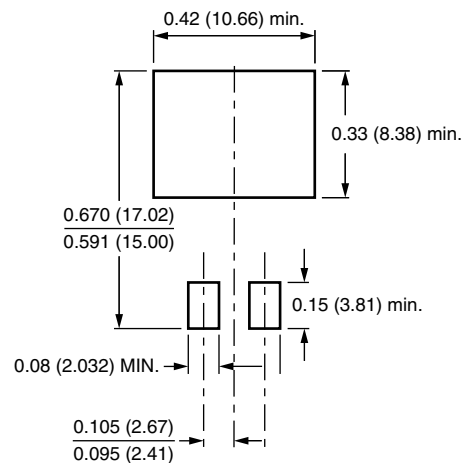


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D<sup>2</sup>PAK (TO-263AB)



Mounting Pad Layout





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