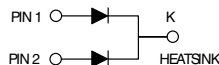
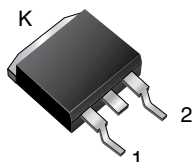


Dual Common Cathode Schottky Rectifier

D²PAK (TO-263AB)


LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	2 x 10 A
V_{RRM}	45 V, 60 V
I_{FSM}	150 A
V_F	0.57 V, 0.70 V
$T_J \text{ max.}$	150 °C
Package	D ² PAK (TO-263AB)
Circuit configuration	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 available
 - Automotive ordering code: Base P/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
Available

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: D²PAK (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 °C unless otherwise noted)					
PARAMETER	SYMBOL	MBRB2045CT	MBRB2060CT	UNIT	
Maximum repetitive peak reverse voltage	V _{RRM}	45	60	V	
Working peak reverse voltage	V _{RWM}	45	60		
Maximum DC blocking voltage	V _{DC}	45	60		
Maximum average forward rectified current at T _C = 135 °C	total device	I _{F(AV)}	20		A
	per diode		10		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	150			
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			°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	MBRB2045CT	MBRB2060CT	UNIT
Maximum instantaneous forward voltage per diode	$V_F^{(1)}$	$I_F = 10\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$	0.65	0.80	V
		$I_F = 10\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$	0.57	0.70	
		$I_F = 20\text{ A}$ $T_C = 25\text{ }^{\circ}\text{C}$	0.84	0.95	
		$I_F = 20\text{ A}$ $T_C = 125\text{ }^{\circ}\text{C}$	0.72	0.85	
Maximum reverse current at DC blocking voltage per diode	$I_R^{(2)}$	Rated V_R	$T_C = 25\text{ }^{\circ}\text{C}$	0.1	mA
			$T_C = 125\text{ }^{\circ}\text{C}$	15	

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
(2) 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 resistance from junction to case per diode	$R_{\theta JC}$	2.0	$^{\circ}\text{C/W}$

ORDERING INFORMATION (Example)					
PACKAGE	PREFERRED P/N	UNIT WEIGHT (g)	PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
D ² PAK (TO-263AB)	MBRB2045CT-M3/I	1.35	I	800/reel	Tape and reel
D ² PAK (TO-263AB)	MBRB2045CTHM3/I ⁽¹⁾	1.35	I	800/reel	Tape and reel

Notes

- (1) AEC-Q101 qualified

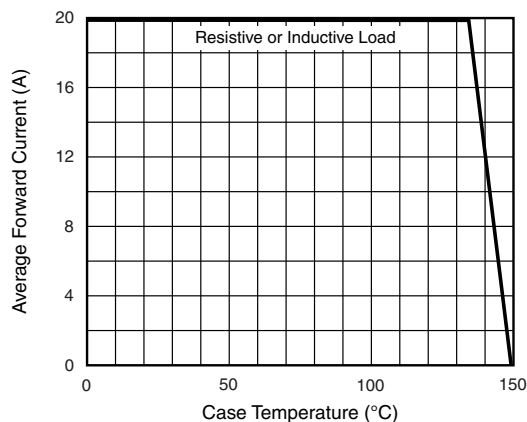
RATINGS AND CHARACTERISTICS CURVES ($T_C = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)


Fig. 1 - Forward Derating Curve (Total)

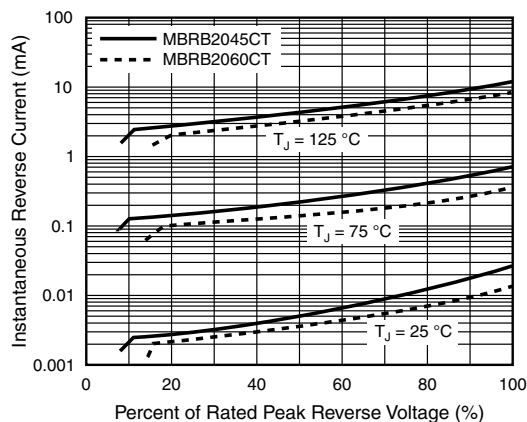


Fig. 4 - Typical Reverse Characteristics Per Diode

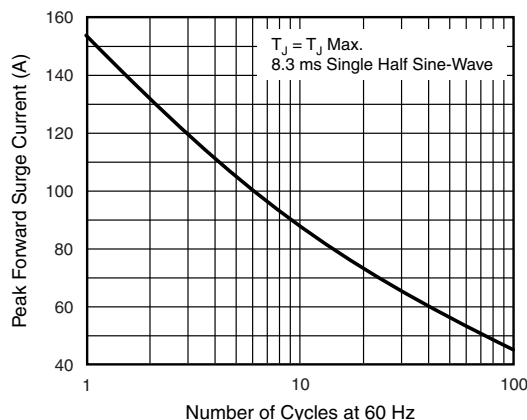


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current Per Diode

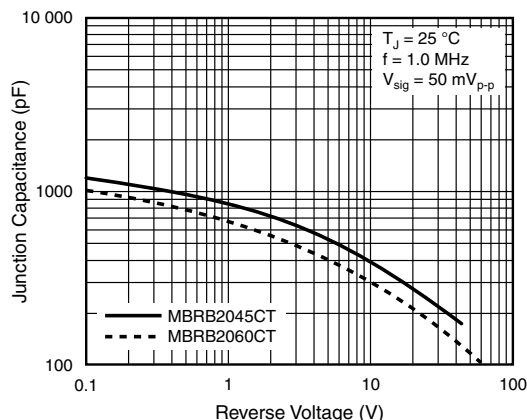


Fig. 5 - Typical Junction Capacitance Per Diode

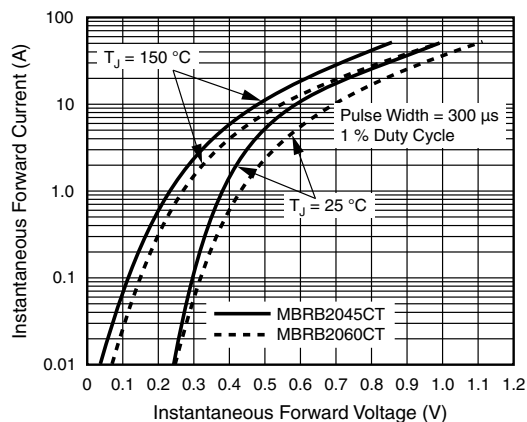


Fig. 3 - Typical Instantaneous Forward Characteristics Per Diode

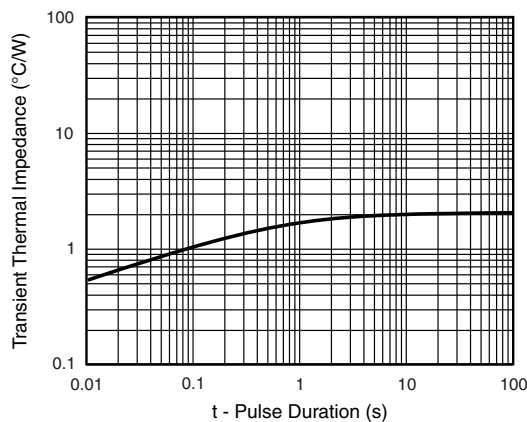
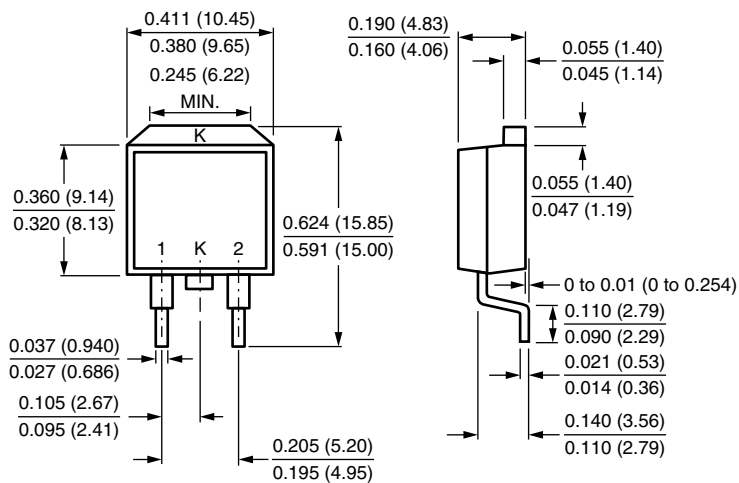


Fig. 6 - Typical Transient Thermal Impedance Per Diode

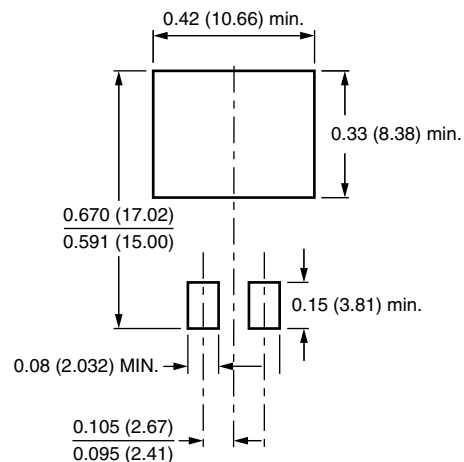


PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

D²PAK (TO-263AB)



Mounting Pad Layout





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