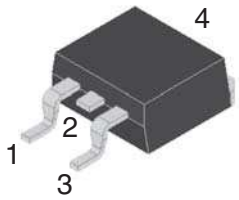
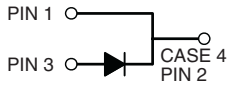
10.0 Amp. Surface Mount High Temperature Technology Schottky Rectifier

TO-263AB (D2PAK)





Voltage	Current
45 to 200 V	10.0 A

FEATURES

- Low leakage current
- Ideal for automated placement
- Guardring for overvoltage protection
- Low power losses, high efficiency
- Low forward voltage drop
- High frequency operation
- High forward surge current capability
- Solder dip 260ºC, 10s
- AEC-Q101 qualified
- Component in accordance to RoHS 2011/65/EU and WEEE 2002/96/EC
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260º C

AUTOMOTIVE GRADE Available

RoHS COMPLIANT

MECHANICAL DATA

- **Case:** TO-263AB (D2PAK) molded plastic. Epoxy meets UL 94V-0 flammability rating.
- **Polarity:** As marked
- **Terminals:** Matte tin plated leads, solderable per MIL-STD-750 Method 2026, J-STD-002 and JESD22-B102. 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.

TYPICAL APPLICATIONS

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

Maximun Ratings and Electrical Characteristics at 25°C

		MBRS 10H45CTC	MBRS 10H60CTC	MBRS 10H100CTC	MBRS 10H150CTC	MBRS 10H200CTC
Marking Code		MBRS10H45CTC	MBRS10H60CTC	MBRS100H100CTC	MBRS10H150CTC	MBRS10H200CTC
V_{RRM}	Maximum Recurrent Peak Reverse Voltage (V)	45	60	100	150	200
V_{RMS}	Maximum RMS Voltage (V)	31	42	70	105	140
V_{DC}	Maximum DC Blocking Voltage (V)	45	60	100	150	200
$I_{F\ (AV)}$	Maximum Average Forward Rectified Current at T_C=133°C	10 A				
I_{FSM}	Peak Forward Surge Current, 8.3 ms Single Half sine-wave Superimposed on Rated Load (JEDEC Method)	120 A				
I_{RRM}	Peak Repetitive Reverse Surge Current	1.0 A	0.5 A			
T_j	Operating Junction Temperature Range	– 65 to + 175 °C				
T_{stg}	Storage Temperature Range	– 65 to + 175 °C				

Electrical Characteristics at Tamb = 25 °C

V_F	Maximum Instantaneous Forward Voltage at (Note 1)				
	I_F = 5 A, Tj = 25 °C	0.70 V	0.85 V	0.85 V	0.88 V
	I_F = 5 A, Tj = 125 °C	0.57 V	0.65 V	0.75 V	0.75 V
	I_F = 10 A, Tj = 25 °C	0.80 V	0.90 V	0.95 V	0.97 V
	I_F = 10 A, Tj = 125 °C	0.67 V	0.75 V	0.85 V	0.85 V
I_R	Max. Instantaneous Reverse Current @ Tj=25°C	100 µA		10.0 µA	
	at Rated DC Blocking Voltage (Note 3) @ Tj=125°C	12 mA		2.0 mA	
$R_{thj\text{-}c}$	Typical Thermal Resistance (Note 2)	2.0 °C/W		3.5 °C/W	

Notes: 1. Pulse Test: 300µ Pulse Width, 1% Duty Cycle
2. Thermal Resistance from Junction to Case per diode
3. Pulse test: Pulse width ≤ 40ms

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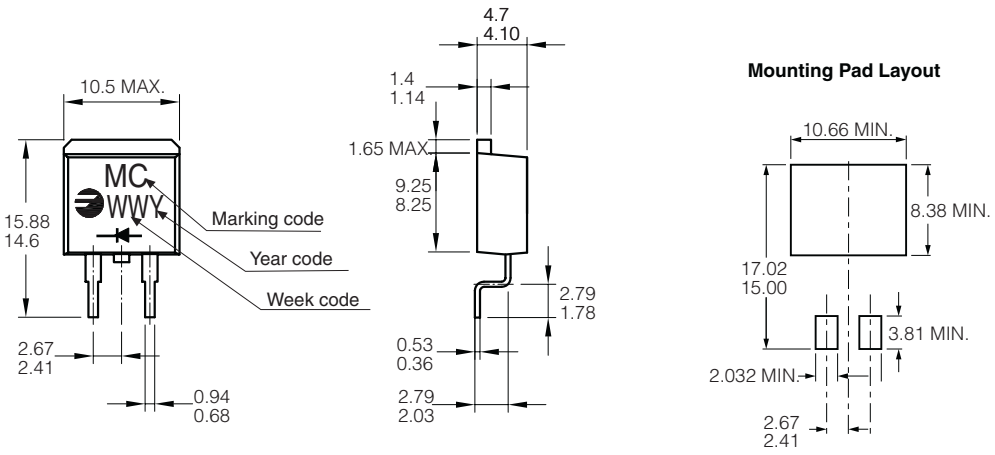
Ordering information

PREFERRED P/N	PACKAGE CODE	DELIVERY MODE	BASE QUANTITY	UNIT WEIGHT (g)
MBRS10H150CTC 00TRC	TR	13" diameter tape and reel	800	1.33
MBRS10H150CTC 00 HE3 TRC	TR	13" diameter tape and reel	800	1.33
MBRS10H150CTC 00TUC	TU	TUBE	1000	1.33
MBRS10H150CTC 00 HE3 TUC	TU	TUBE	1000	1.33

Package Outline Dimensions: (mm) TO-263AB (D2PAK)



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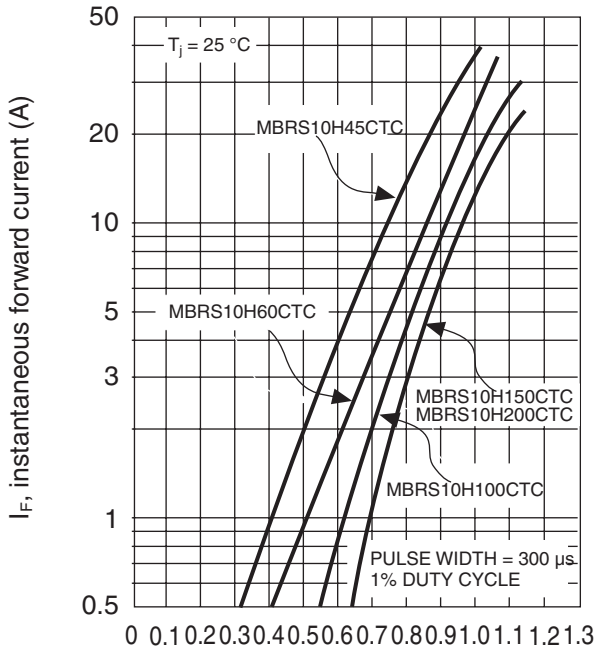
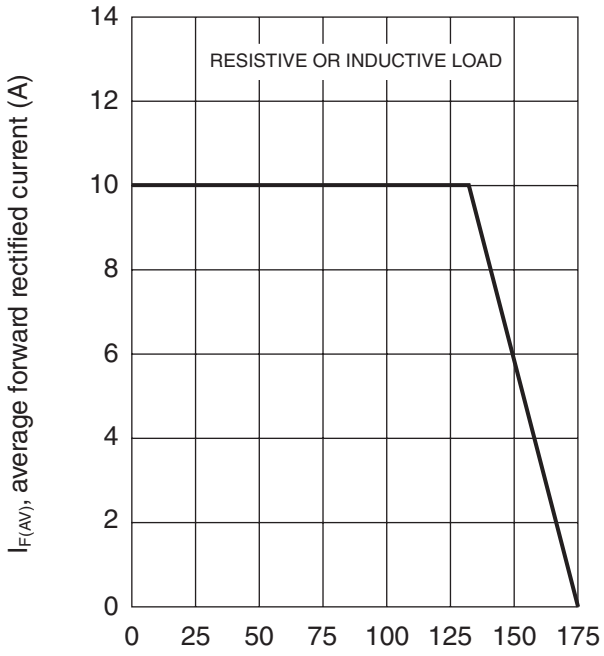
Ratings and Characteristics (Ta 25 ºC unless otherwise noted)

TYPICAL FORWARD CHARACTERISTIC



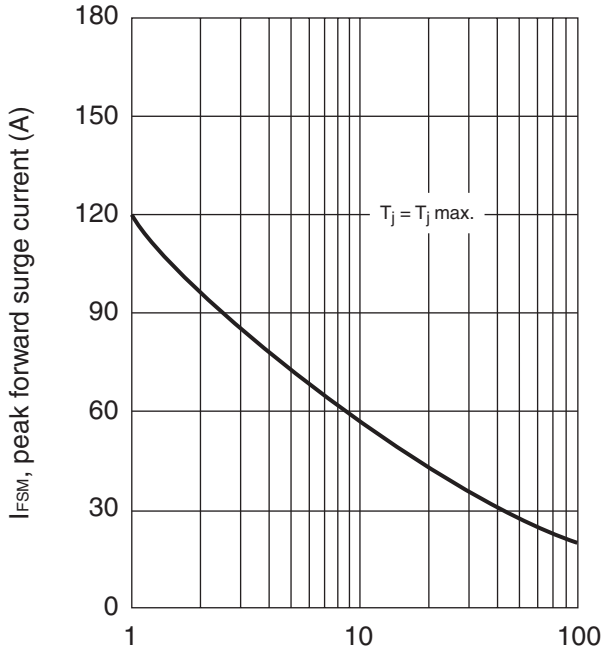
V_F, instantaneous forward voltage (V)

FORWARD CURRENT DERATING CURVE



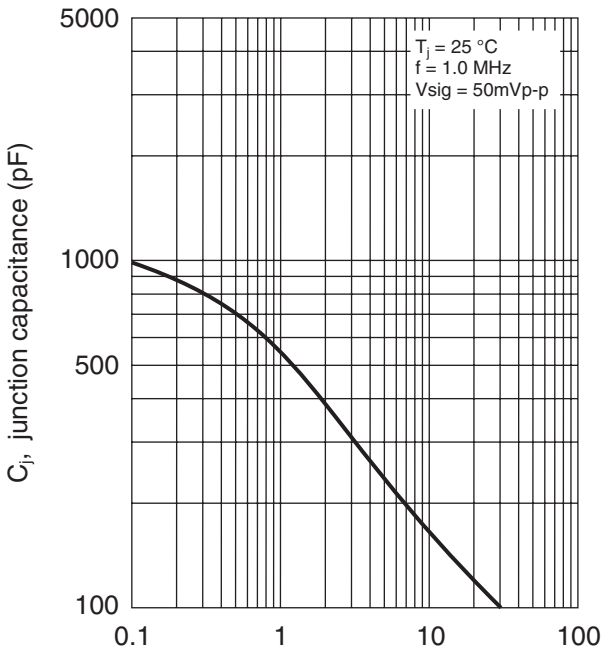
T_C, case temperature (ºC)

MAXIMUM NON-REPETITIVE
PEAK FORWARD SURGE CURRENT



Number of cycles at 60 Hz.

TYPICAL JUNCTION CAPACITANCE



V_R, reverse voltage (V)

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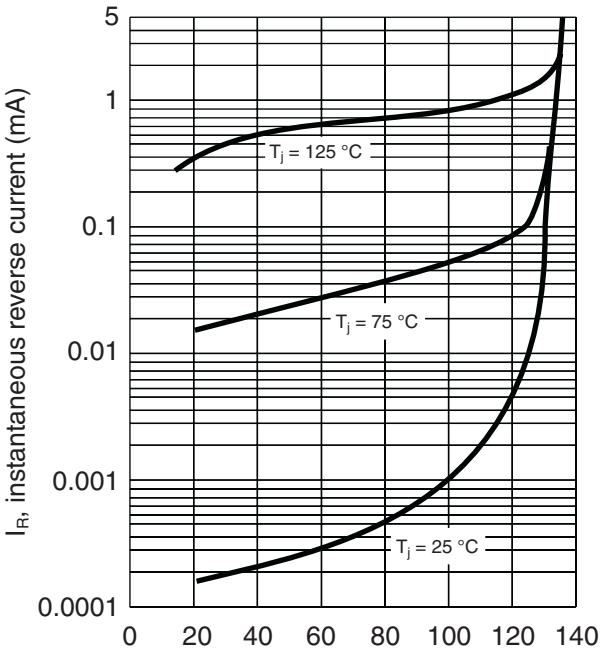
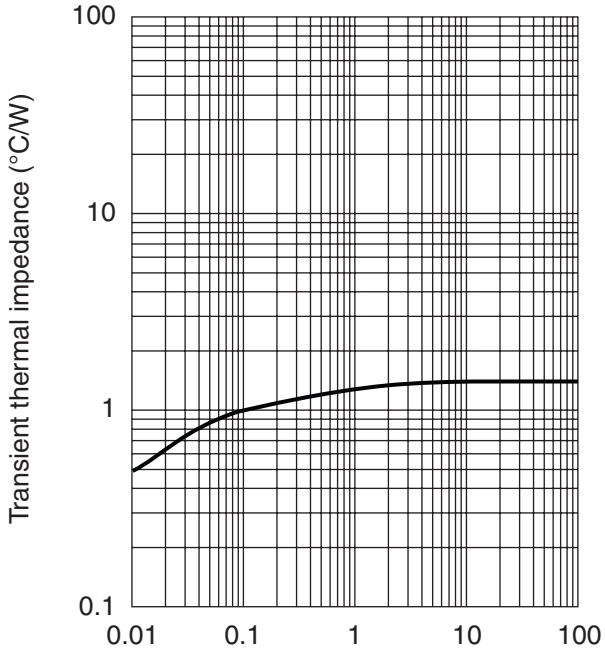
TYPICAL REVERSE CHARACTERISTICS



TYPICAL TRANSIENT THERMAL CHARACTERISTICS



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