

LOW VF SCHOTTKY BARRIER RECTIFIER

Reverse Voltage - 150 Volts

Forward Current - 20.0Amperes

FEATURES

- Power pack
- Metal silicon junction ,majority carrier conduction
- Guard ring for overvoltage protection
- Low power loss ,high efficiency
- High current capability ,low forward voltage drop
- High forward surge capability
- High frequency operation
- Meets MSL Level 1, per J-STD-020, LF MAX peak of 260°C (for TO-263 package)
- Solder bath temperature 275°C maximum, 10s, per JESD22-B106 (for TO-220AB and ITO-220AB package)
- Component in accordance to RoHS 2011/65/EU

MECHANICAL DATA

- Case: JEDEC TO-220AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting Torque: 10 in-lbs maximum

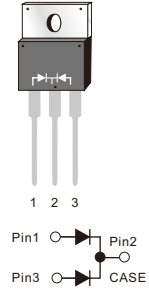
TYPICAL APPLICATIONS

For use in low voltage ,high frequency inverters ,DC/DC converters, free wheeling ,and polarity protection applications

MAXIMUM RATINGS

(Ratings at 25°C ambient temperature unless otherwise specified)

Parameter		Symbol	Value	Unit
Maximum repetitive peak reverse voltage		V_{RRM}	150	V
Maximum average forward rectified current (see fig.1)	Per leg	$I_F(AV)$	10.0	A
	Total device		20.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)		I_{FSM}	200	A
Peak repetitive reverse current per diode at $t_p=2\mu s$ 1KHz		I_{RRM}	0.5	A
Operating junction and Storage temperature range		T_J, T_{stg}	-55 to +175	°C

TO-220AB**PRIMARY CHARACTERISTICS**

$I_F(AV)$	$2 \times 10A$
V_{RRM}	150V
I_{FSM}	200A
V_F at $I_F=10.0A$, Per leg	0.85V
I_R	$5\mu A$
$T_J(MAX)$	175°C
Package	TO-220AB
Diode variations	Common cathode

RATINGS AND CHARACTERISTIC

ELECTRICAL CHARACTERISTICS (T_A=25°C Unless otherwise noted)

Parameter	Test Conditions		Symbol	TYP.	MAX.	Unit
Instantaneous forward voltage	Per leg I _F =10.0A	T _A =25°C	V _F ¹⁾	0.85	0.88	V
		T _A =100°C		0.75	—	
		T _A =125°C		0.72	—	
	Per leg I _F =5.0A	T _A =25°C		0.77	—	
		T _A =100°C		0.67	—	
		T _A =125°C		0.63	—	
Reverse current	V _R =150V	T _A =25°C	I _R ²⁾	5	20	μA
		T _A =100°C		0.3	1	mA
		T _A =125°C		1	2	
Typical junction capacitance	4V, 1MHz		C _J	570		pF

Notes: 1.Pulse test: 300 μs pulse width, 1% duty cycle

2.Pulse test: pulse width ≤ 40ms

THERMAL CHARACTERISTICS

Parameter	Symbol	MB20150LCT	Unit
Typical thermal resistance ³⁾	R _{θJC}	2.5	°C/W

3.Thermal resistance from junction to case

RATINGS AND CHARACTERISTIC

FIG.1-FORWARD CURRENT DERATING CURVE

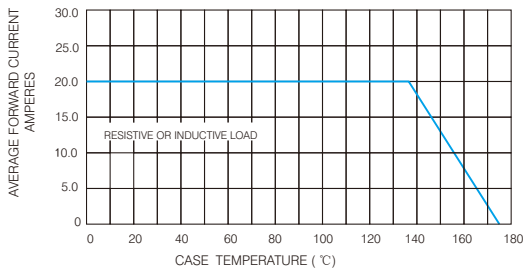


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

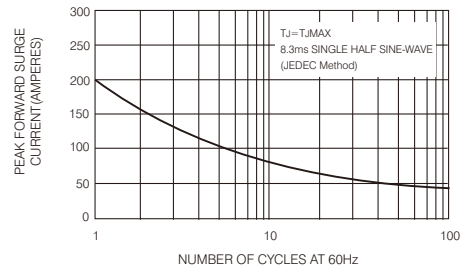


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

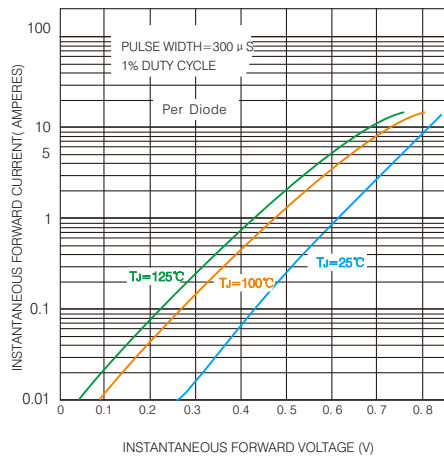


FIG.4-TYPICAL REVERSE CHARACTERISTICS

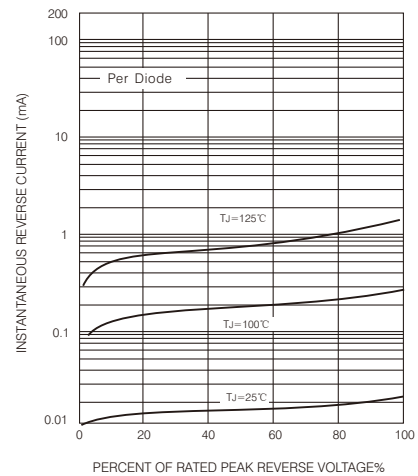
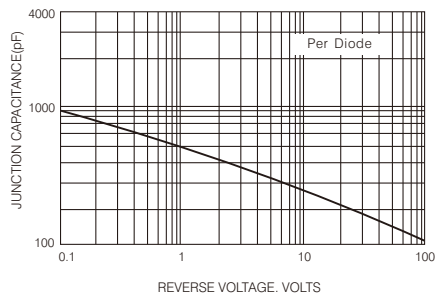


FIG.5-TYPICAL JUNCTION CAPACITANCE



PACKAGE OUTLINE DIMENSIONS

Dimensions in inches and (millimeters)

TO-220AB

