

LOW VF SCHOTTKY BARRIER RECTIFIER

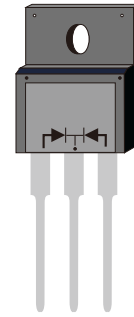
Reverse Voltage - 45 Volts

Forward Current - 40Amperes

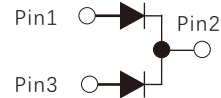
FEATURES

- 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 2015/863/EU

ITO-220AB



1 2 3



MECHANICAL DATA

- Case: JEDEC ITO-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

PRIMARY CHARACTERISTICS

$I_F(AV)$	2×20A
V_{RRM}	45V
I_{FSM}	350A
V_f at $I_F=20.0A, 125^\circ C$ Per leg	0.46V
I_R	100μA
$T_J(MAX)$	150°C
Package	ITO-220AB
Diode variations	Common cathode

MAXIMUM RATINGS

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

Parameter	Symbol	Value	Unit
Maximum repetitive peak reverse voltage	V_{RRM}	45	V
Maximum average forward rectified current (see fig.1)	$I_F(AV)$	20.0	A
		40.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method at rated TL)	I_{FSM}	350	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 +150	°C
Isolation voltage(ITO-220AB only)from terminals to heatsink $t=1$ min	V_{AC}	1500	V

ELECTRICAL CHARACTERISTICS (Per Leg $T_A=25^\circ\text{C}$ Unless otherwise noted)

Parameter	Test Conditions		Symbol	Typ.	Max.	Unit
Instantaneous forward voltage	$I_F=20.0\text{A}$	$T_A=25^\circ\text{C}$	V_F ¹⁾	0.50	0.55	V
		$T_A=100^\circ\text{C}$		0.47	—	
		$T_A=125^\circ\text{C}$		0.46	—	
	$I_F=10.0\text{A}$	$T_A=25^\circ\text{C}$		0.40	—	
		$T_A=100^\circ\text{C}$		0.36	—	
		$T_A=125^\circ\text{C}$		0.35	—	
Reverse current	$V_R=45\text{V}$	$T_A=25^\circ\text{C}$	I_R ²⁾	100	200	μA
		$T_A=100^\circ\text{C}$		8	15	mA
		$T_A=125^\circ\text{C}$		20	50	
Typical junction capacitance	4V, 1MHz		C_J	930		pF

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

2. Pulse test: pulse width $\leq 40\text{ms}$

THERMAL CHARACTERISTICS

Parameter	Symbol	MBR4045LFCT	Unit
Typical thermal resistance ³⁾	$R_{\theta JC}$	3.2	$^\circ\text{C/W}$

3. Thermal resistance from junction to case, Total device

RATINGS AND CHARACTERISTIC

FIG.1-FORWARD CURRENT DERATING CURVE

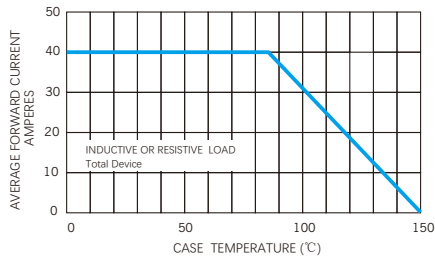


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

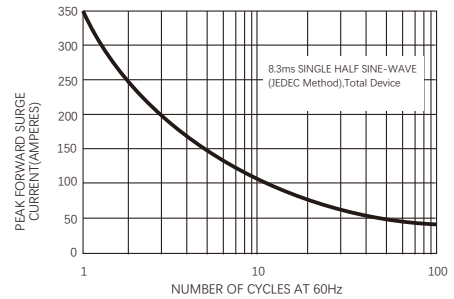


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

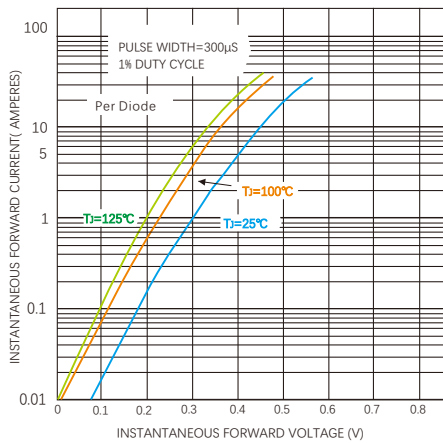


FIG.4-TYPICAL REVERSE CHARACTERISTICS

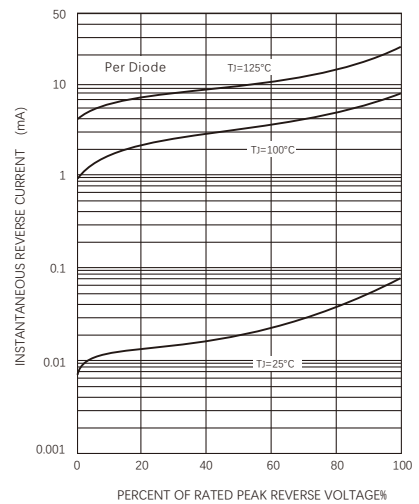
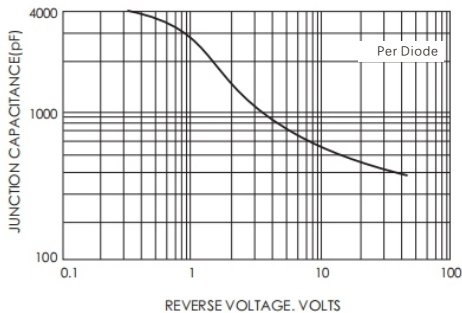


FIG.5-TYPICAL JUNCTION CAPACITANCE



Dimensions in inches and (millimeters)

ITO-220AB

