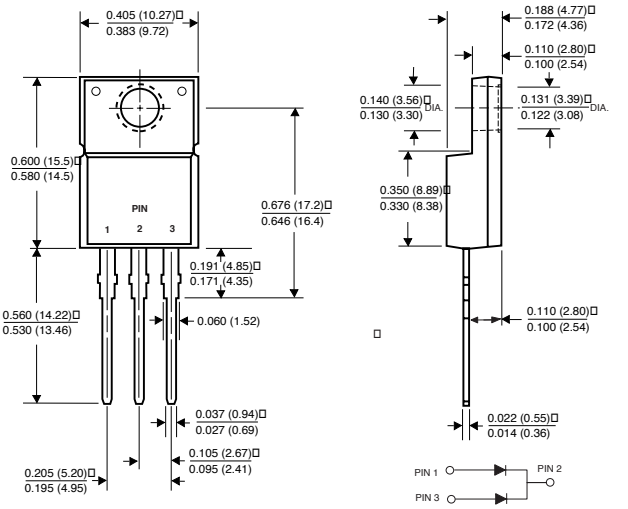
MBRF1535CT THRU MBRF1560CT

SCHOTTKY ISOLATED PLASTIC RECTIFIER

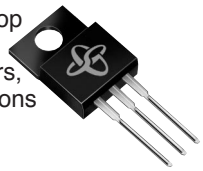
Reverse Voltage - 35 to 60 Volts **Forward Current -** 15.0 Amperes

ITO-220AB



Dimensions in inches and (millimeters)

FEATURES



- Isolated plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- Metal silicon junction, majority carrier conduction
- Low power loss, high efficiency
- High current capability, low forward voltage drop
- High surge capability
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- Dual rectifier construction, positive center tap
- Guardring for transient protection
- High temperature soldering guaranteed: 250°C/10 seconds, 0.25" (6.35mm) from case

MECHANICAL DATA

Case: ITO-220AB fully overmolded plastic body
Terminals: Leads solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Mounting Torque: 5 in. - lbs. max.
Weight: 0.08 ounces, 2.24 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBRF1535CT	MBRF1545CT	MBRF1550CT	MBRF1560CT	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	35	45	50	60	Volts
Maximum working peak reverse voltage	V_{RWM}	35	45	50	60	Volts
Maximum DC blocking voltage	V_{DC}	35	45	50	60	Volts
Maximum average forward rectified current at T_C=105°C	$I_{(AV)}$	15.0				Amps
Peak repetitive forward current at T_C=105°C per diode (rated V_R, 20KHz sq.wave)	I_{FRM}	15.0				Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150.0				Amps
Peak repetitive reverse surge current (NOTE 1)	I_{RRM}	1.0		0.5		Amps
Maximum instantaneous forward voltage per leg at (NOTE 2) I_F=7.5A, T_C=25°C I_F=7.5A, T_C=125°C I_F=15A, T_C=25°C I_F=15A, T_C=125°C	V_F	– 0.57 0.84 0.72		0.75 0.65 – –		Volts
Maximum instantaneous reverse current at rated DC blocking voltage per leg T_C=25°C (NOTE 2) T_C=125°C	I_R	0.1 15.0		1.0 50.0		mA
Voltage rate of change, (rated V_R)	dv/dt	10,000				V/μs
Maximum thermal resistance per leg (NOTE 3)	$R_{\Theta JC}$	5.0				°C/W
Operating junction temperature range	T_J	-65 to +150				°C
Storage temperature range	T_{STG}	-65 to +175				°C
RMS Isolation voltage from terminals to heatsink with RH ≤ 30%	V_{ISOL}	4500 (NOTE 4) 3500 (NOTE 5) 1500 (NOTE 6)				Volts

NOTES: (1) 2.0μs pulse width, f=1.0 KHz
(2) 300μs, pulse width, 1% duty cycle
(3) Thermal resistance from junction to case
(4) Clip mounting (on case), where lead does not overlap heatsink with 0.110" offset.
(5) Clip mounting (on case), where leads do overlap heatsink.
(6) Screw mounting with 4-40 screw, where washer diameter is ≤ 4.9 mm (0.19").

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FIG. 1 - FORWARD CURRENT DERATING CURVE

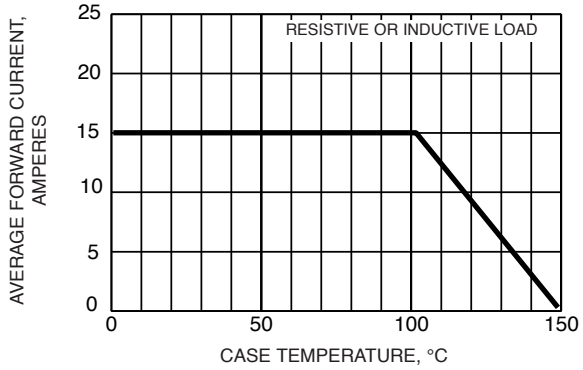


FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

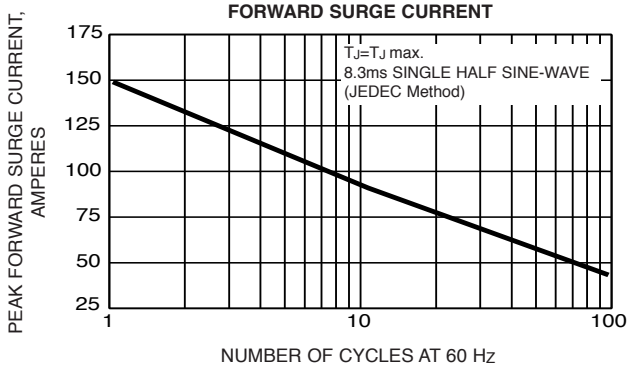


FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

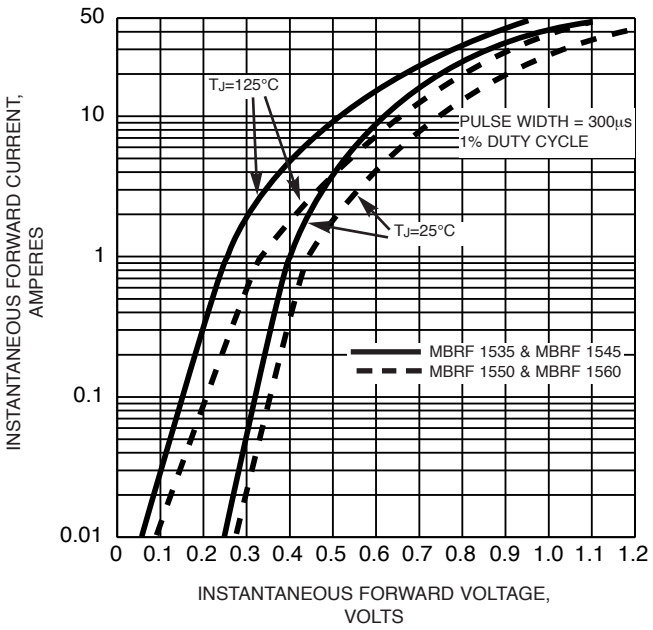


FIG. 4 - TYPICAL REVERSE CHARACTERISTICS

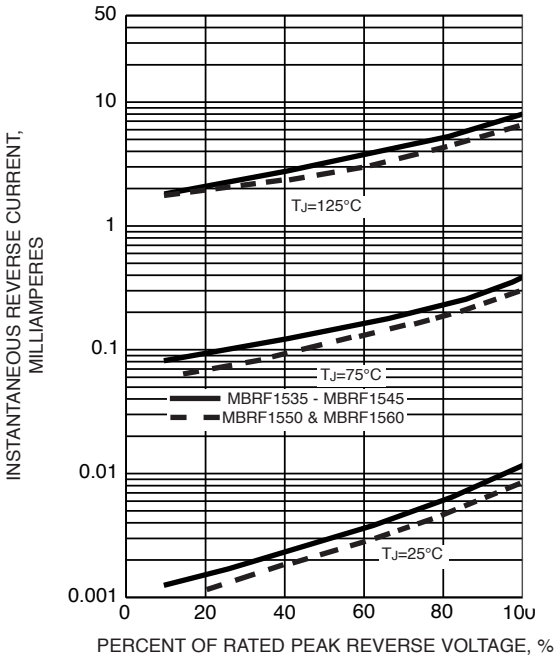


FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

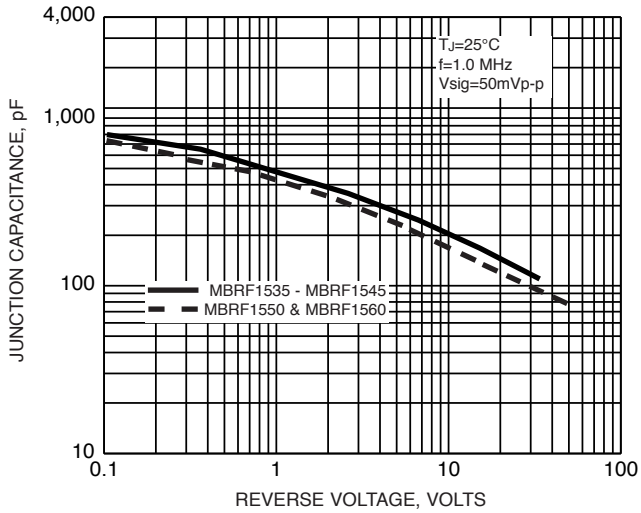
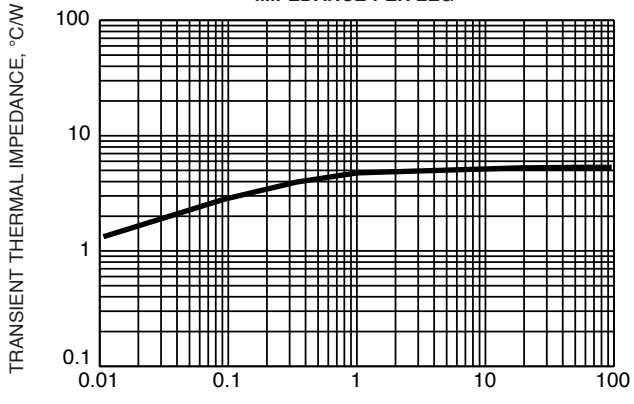


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG



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