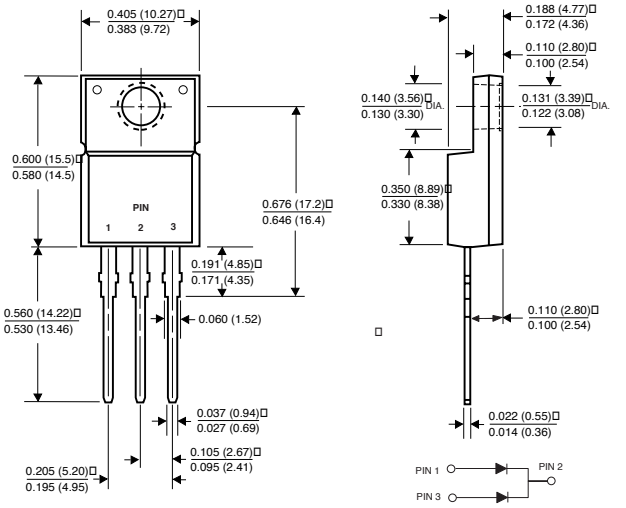
MBRF2535CT THRU MBRF2560CT

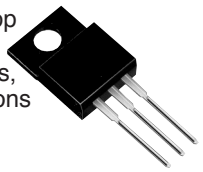
ITO-220AB



Dimensions in inches and (millimeters)

FEATURES

- ♦ Isolated plastic package has Underwriters Laboratory Flammability Classifications 94V-0
- ♦ Dual rectifier construction, positive center-tap
- ♦ 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
- ♦ Guardring for overvoltage 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: Lead solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Weight: 0.08 ounce, 2.24 grams
Mounting Torque: 5 in. - lbs. max.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOLS	MBRF2535CT	MBRF2545CT	MBRF2550CT	MBRF2560CT	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=130°C	$I_{(AV)}$	30.0				Amps
Peak repetitive forward current per leg at T_C=130°C (rated V_R, square wave, 20 KHz)	I_{FRM}	30.0				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=15.0A, T_C=25°C	V_F	-		0.75		Volts
I_F=15.0A, T_C=25°C		-		0.65		
I_F= 30A, T_C=25°C		0.82		-		
I_F= 30A, T_C=125°C		0.73		-		
Maximum instantaneous reverse current at rated DC blocking voltage per leg (NOTE 2) T_C=25°C	I_R	0.2		1.0		mA
T_C=125°C		40.0		50.0		
Maximum thermal resistance (NOTE 3)	$R_{\Theta JC}$	4.5				°C/W
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				°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) Pulse test: 300μs pulse width, 1% duty cycle
(3) Thermal resistance from junction to case per leg
(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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RATINGS AND CHARACTERISTIC CURVES MBRF2535CT THRU MBRF2560CT

FIG. 1 - FORWARD CURRENT DERATING CURVE

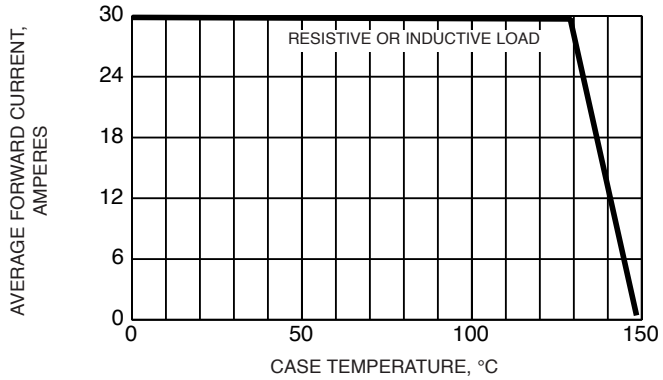

FIG. 2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PER LEG

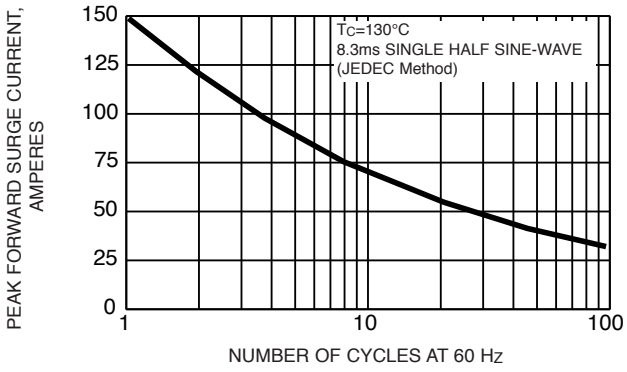

FIG. 3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

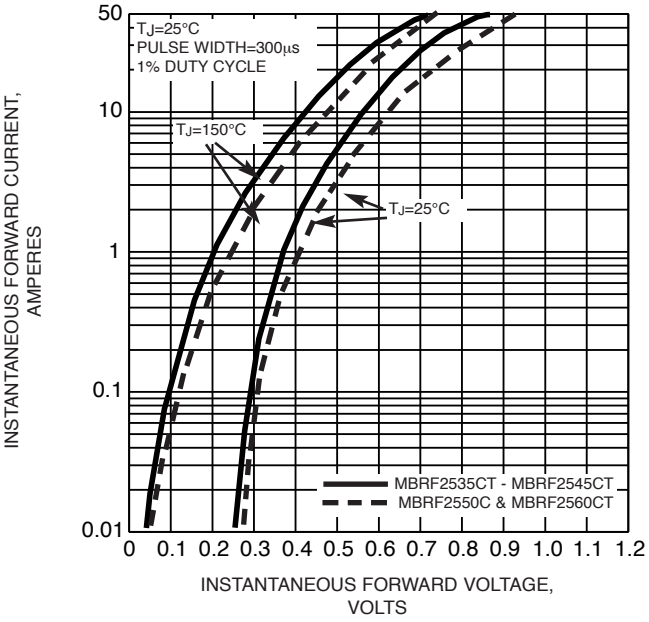

FIG. 4 - TYPICAL REVERSE CHARACTERISTICS PER LEG

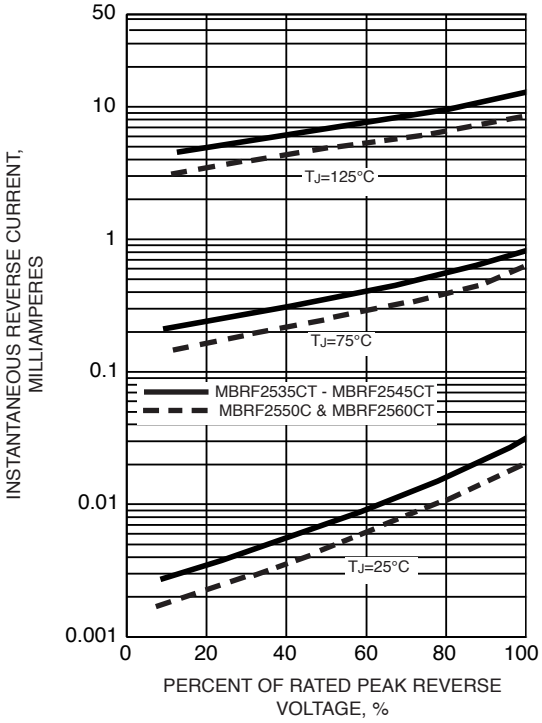

FIG. 5 - TYPICAL JUNCTION CAPACITANCE PER LEG

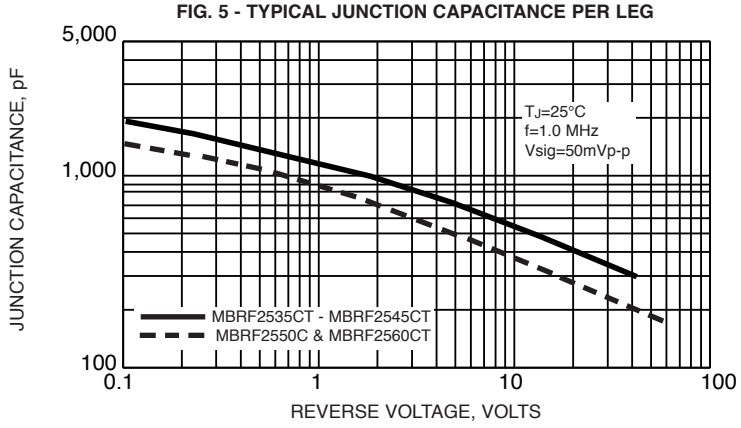
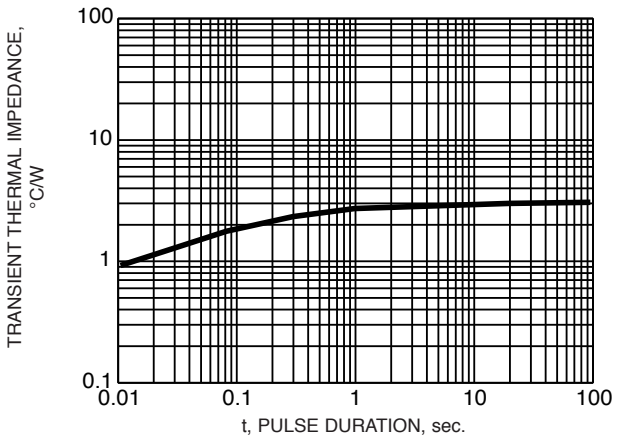
FIG. 6 - TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG