

MBR10300LCT

Schottky Barrier Diodes Low Forward Voltage
10 A Total



FEATURES

- * Low forward voltage drop
- * High current capability
- * High reliability
- * High surge current capability
- * Epitaxial construction

MECHANICAL DATA

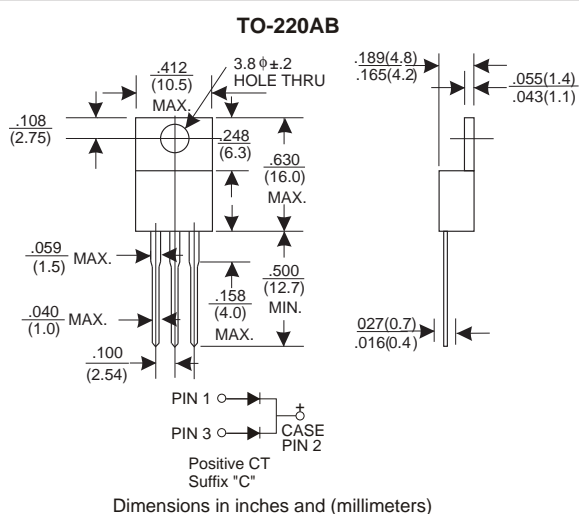
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Lead solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: As Marked
- * Mounting position: Any
- * Weight: 1.81 grams
- * Lead Free Finish/RoHS Compliant

VOLTAGE RANGE

300 Volts

CURRENT

10.0 Ampere



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Ratings at 25°C ambient temperature unless otherwise specified, Single phase, half wave, resistive or inductive load. For capacitive load, derate by 20%.)

	Symbols	MBR10300LCT	Units
Maximum repetitive peak reverse voltage	V_{RRM}	300	Volts
Maximum RMS voltage	V_{RMS}	210	Volts
Maximum DC blocking voltage	V_{DC}	300	Volts
Maximum average forward rectified current (see Fig. 1)	Per leg	5.0	Amps
	Total device	10.0	
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	150.0	Amps
Forward voltage at 5.0 A per leg (Notes 1)	V_F	0.80	Volts
Maximum instantaneous reverse current at rated DC blocking voltage (Notes 1)	$T_A=25^{\circ}C$	500	μA
	$T_A=125^{\circ}C$	30	mA
Typical thermal resistance (Notes 2)	$R_{\theta JC}$	2.5	$^{\circ}C/W$
Operating junction temperature range	T_J	-65 to +175	$^{\circ}C$
Storage temperature range	T_{STG}	-65 to +175	$^{\circ}C$
Voltage Rate of Change (Rated V_R)	dv/dt	10,000	$V/\mu s$

- Notes:** 1. Pulse test: 300 μs pulse width, 1% duty cycle
2. Thermal resistance from junction to case

FIG.1-FORWARD CURRENT DERATING CURVE

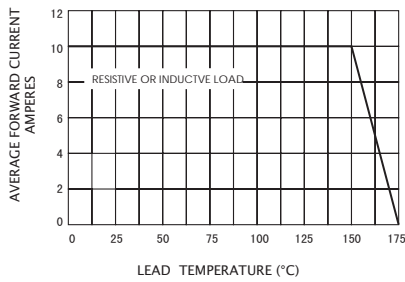


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

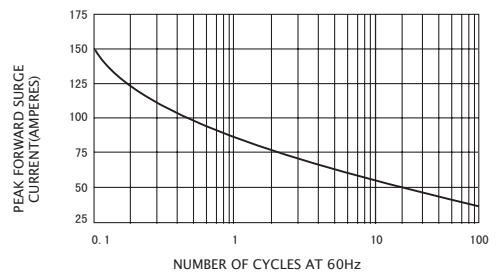


FIG.3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

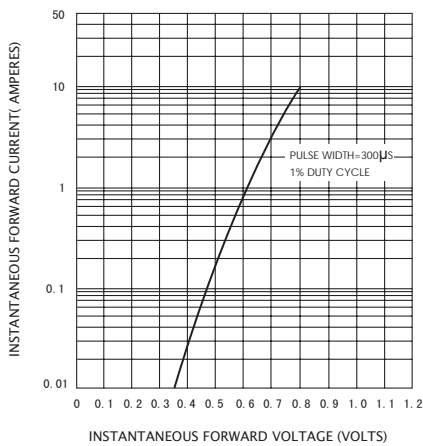


FIG.4-TYPICAL REVERSE CHARACTERISTICS

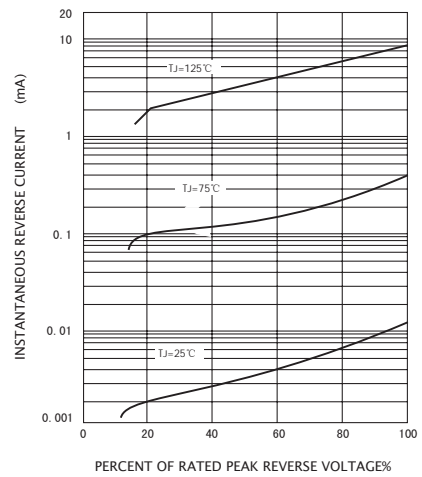


FIG.5-TYPICAL JUNCTION CAPACITANCE

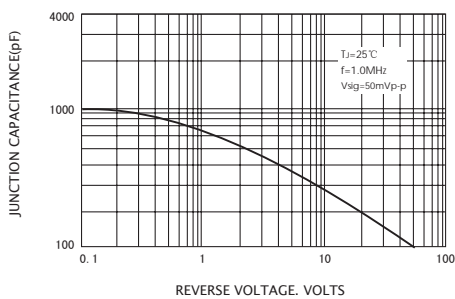


FIG.6-TYPICAL TRANSIENT THERMAL IMPEDANCE

