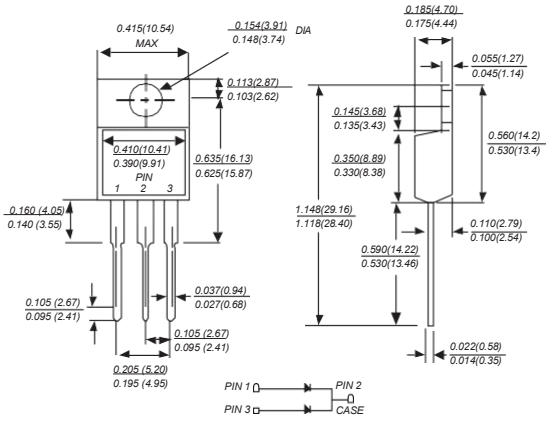
Semiconductor

MBR1020CT THRU MBR10100CT
SCHOTTKY BARRIER RECTIFIER

TO-220AB



Dimensions in inches and (millimeters)

FEATURES

- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Construction utilizes void-free molded plastic technique
- Low reverse leakage
- High forward surge current capability
- High temperature soldering guaranteed:
  250℃,0.25''(6.35mm) from case for 10 seconds

MECHANICAL DATA

Case: TO-220AB molded plastic body
Terminals: Leads solderable per MIL-STD-750, Method 2026
Polarity: As marked
Mounting Position: Any
Weight:0.080 ounce, 2.24 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

	SYMBOLS	MBR 1040CT	MBR 1045CT	MBR 1050CT	MBR 1060CT	MBR 1080CT	MBR 10100CT	UNITS
Maximum repetitive peak reverse voltage	V_{RRM}	40	45	50	60	80	100	VOLTS
Maximum RMS voltage	V_{RMS}	28	32	35	42	56	70	VOLTS
Maximum DC blocking voltage	V_{DC}	40	45	50	60	80	100	VOLTS
Maximum average forward rectified current (see fig.1)	$I_{(AV)}$	10.0						Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I_{FSM}	150.0						Amps
Maximum instantaneous forward voltage at 5.0A	V_F	0.55		0.75		0.85		Volts
Maximum DC reverse current T_A=25℃	I_R	1.0						mA
at rated DC blocking voltage T_A=100℃		15.0		50.0				
Typical junction capacitance (NOTE 1)	C_J	550		450				pF
Typical thermal resistance (NOTE 2)	$R_{\theta JC}$	2.0						℃/W
Operating junction temperature range	T_J	-65 to +125		-65 to +150				℃
Storage temperature range	T_{STG}	-65 to +150						℃

Note:1.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
2.Thermal resistance from junction to case

FIG. 1- FORWARD CURRENT DERATING CURVE

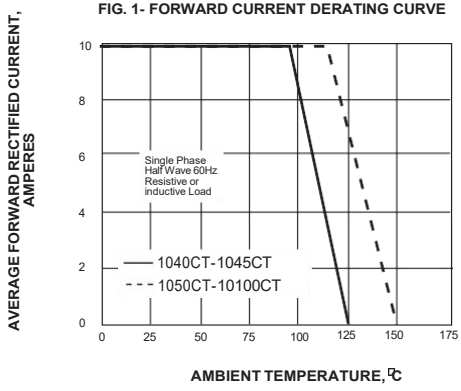


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

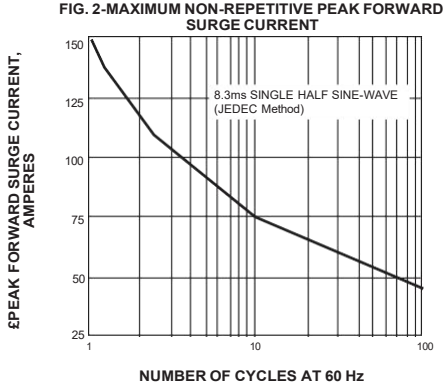


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

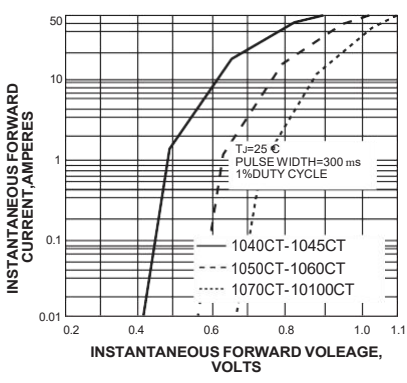


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

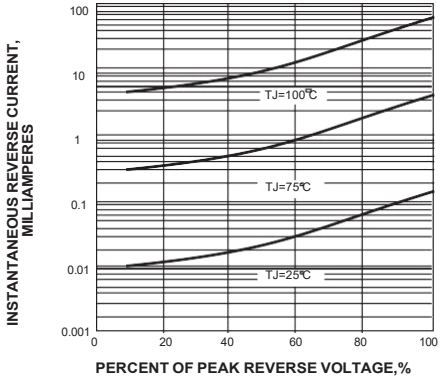


FIG. 5-TYPICAL JUNCTION CAPACITANCE

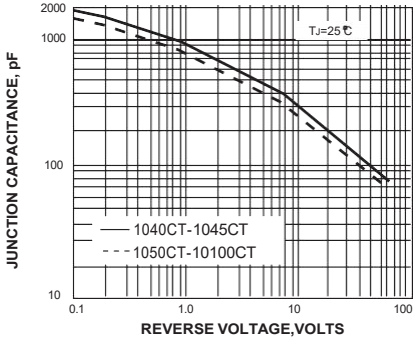


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE