

Pb Free Plating Product

MBR2035CT thru MBR20200CT



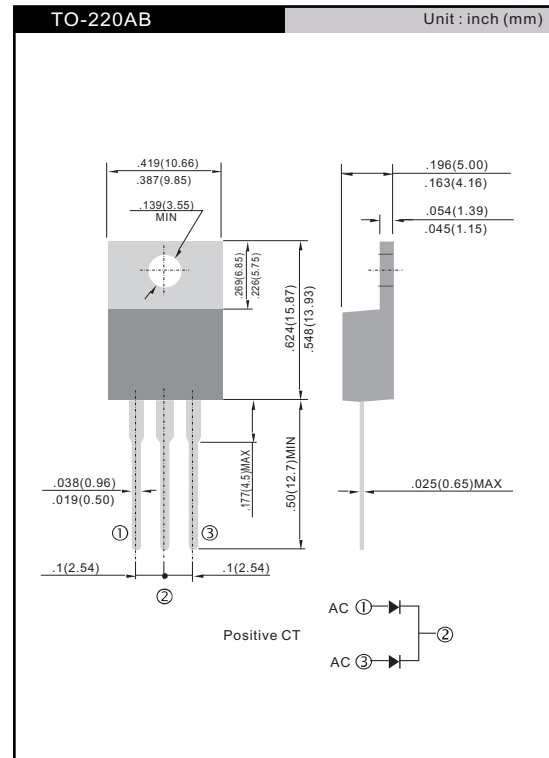
20.0 Ampere Schottky Barrier Rectifiers

Features

- ◇ Plastic material used carries Underwriters Laboratory 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
- ◇ Guardring for overvoltage protection
- ◇ High temperature soldering guaranteed: 260°C/10 seconds, 0.25" (6.35mm) from case

Mechanical Data

- ◇ Cases: JEDEC TO-220AB molded plastic
- ◇ Terminals: Pure tin plated, lead free. solderable per MIL-STD-750, Method 2026
- ◇ Polarity: As marked
- ◇ Mounting position: Any
- ◇ Mounting torque: 5 in. - lbs. max
- ◇ Weight: 0.08 ounce, 2.24 grams



Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.
 Single phase, half wave, 60 Hz, resistive or inductive load.
 For capacitive load, derate current by 20%

Type Number	Symbol	MBR 2035 CT	MBR 2045 CT	MBR 2050 CT	MBR 2060 CT	MBR 2090 CT	MBR 20100 CT	MBR 20200 CT	Units	
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	35	45	50	60	90	100	200	V	
Maximum RMS Voltage	V_{RMS}	24	31	35	42	63	70	140	V	
Maximum DC Blocking Voltage	V_{DC}	35	45	50	60	90	100	200	V	
Maximum Average Forward Rectified Current at $T_c=135^\circ C$	$I_{(AV)}$	20							A	
Peak Repetitive Forward Current (Rated V_R , Square Wave, 20KHz) at $T_c=135^\circ C$	I_{FRM}	20							A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	150							A	
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1.0		0.5					A	
Maximum Instantaneous Forward Voltage at (Note 2)	V_F	IF=10A, TC=25°C		0.80		0.85		0.99		V
		IF=10A, TC=125°C		0.70		0.75		0.87		
		IF=20A, TC=25°C		0.84		0.95		1.23		
		IF=20A, TC=125°C		0.72		0.85		1.10		
Maximum Instantaneous Reverse Current @ $T_c=25^\circ C$ at Rated DC Blocking Voltage	I_R	@ $T_c=125^\circ C$		0.1		0.1		mA		
				15		10		5.0		mA
Voltage Rate of Change, (Rated V_R)	dV/dt	10,000							V/uS	
Typical Junction Capacitance	C_j	400			320			pF		
Typical Thermal Resistance Per Leg (Note 3)	$R_{\theta JC}$	1.0			2.0			°C/W		
Operating Junction Temperature Range	T_J	-65 to +150							°C	
Storage Temperature Range	T_{STG}	-65 to +175							°C	

Notes: 1. 2.0us Pulse Width, f=1.0 KHz
 2. Pulse Test: 300us Pulse Width, 1% Duty Cycle
 3. Thermal Resistance from Junction to Case Per Leg, with Heatsink Size (4"x6"x0.25") Al-Plate.

FIG.1- FORWARD CURRENT DERATIN CURVE

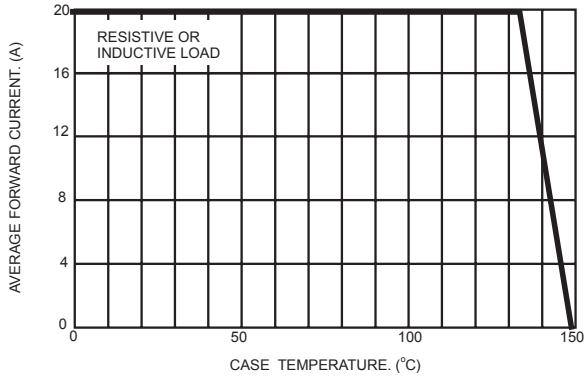


FIG.2- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

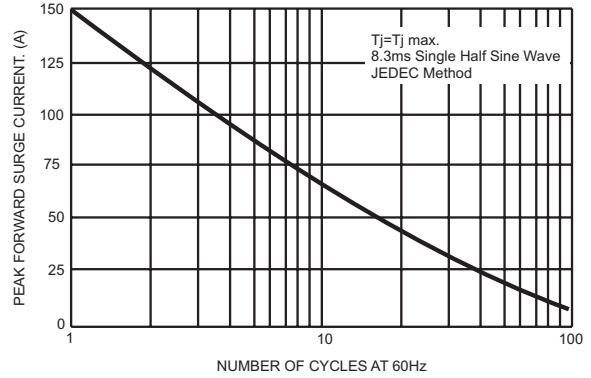


FIG.3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS PER LEG

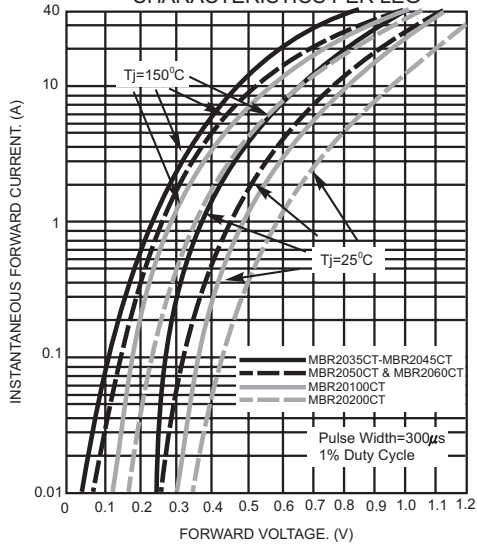


FIG.4- TYPICAL REVERSE CHARACTERISTICS PER LEG

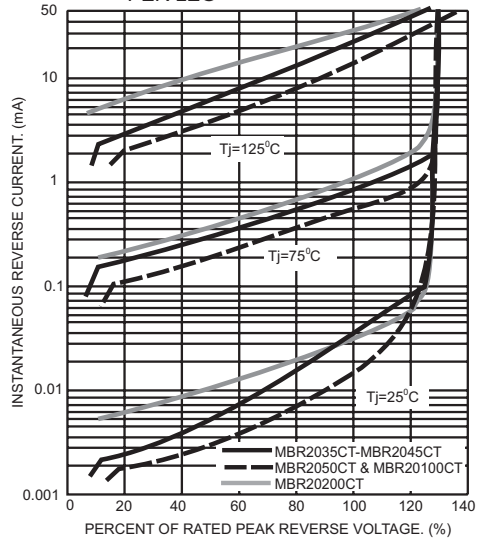


FIG.5- TYPICAL JUNCTION CAPACITANCE PER LEG

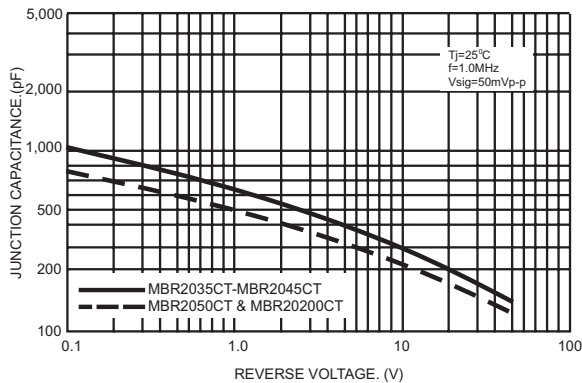


FIG.6- TYPICAL TRANSIENT THERMAL IMPEDANCE PER LEG

