



MBR2045C

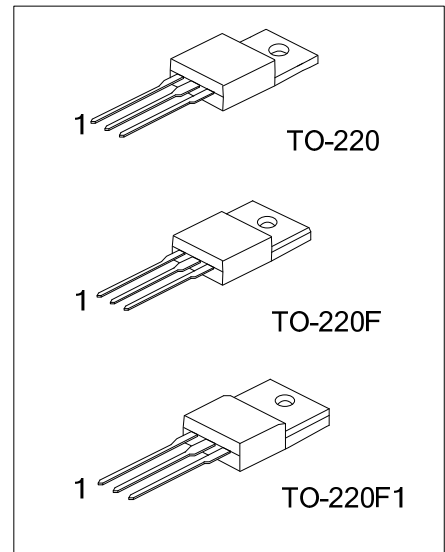
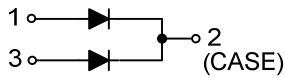
DIODE

SCHOTTKY BARRIER RECTIFIER DIODES

FEATURES

- * Guard Ring for Transient Protection
- * Low Power Loss, High Efficiency
- * High Surge Capability
- * High Current Capability and Low Forward Voltage Drop

SYMBOL



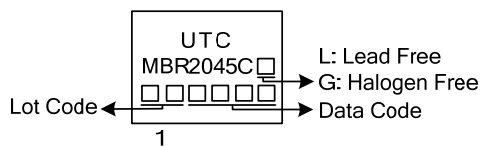
ORDERING INFORMATION

Order Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MBR2045CL-TA3-T	MBR2045CG-TA3-T	TO-220	A	K	A	Tube
MBR2045CL-TF3-T	MBR2045CG-TF3-T	TO-220F	A	K	A	Tube
MBR2045CL-TF1-T	MBR2045CG-TF1-T	TO-220F1	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MBR2045CL-TA3-T</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°C, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		V _R	45	V
Peak Repetitive Reverse Voltage		V _{RRM}	45	V
Working Peak Reverse Voltage		V _{RWM}	45	V
Maximum PMS Reverse Voltage		V _{R(RMS)}	31.5	V
Average Rectified Forward Current (Rated V _R) T _C =125°C (Note 1)	Per Leg	I _O	10	A
	Total		20	A
Peak Repetitive Forward Current (Rated V _R , Square Wave, 20 kHz) (T _C =125°C)		I _{FRM}	10	A
Non-Repetitive Peak Surge Current (Surge Applied At Rated Load Conditions Half Wave, Single Phase, 60Hz)		I _{FSM}	150	A
Voltage Rate of Change (Rated V _R)		dv/dt	10000	V/μs
Typical Junction Capacitance (Note 3)		C _J	650	pF
Operating Junction Temperature (Note 3)		T _J	-65 ~ +150	°C
Storage Temperature		T _{STG}	-65 ~ +150	°C

- Notes: 1. Absolute maximum ratings are those values beyond which the device could be permanently damaged.
 Absolute maximum ratings are stress ratings only and functional device operation is not implied.
 2. The heat generated must be less than the thermal conductivity from Junction-to-Ambient: $dP_D/dT_J < 1/\theta_{JA}$.
 3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient		θ _{JA}	60	°C/W
Junction to Case	TO-220/TO-220F	θ _{JC}	4.5	°C/W
	TO-220F1		3.31	

■ THERMAL DATA

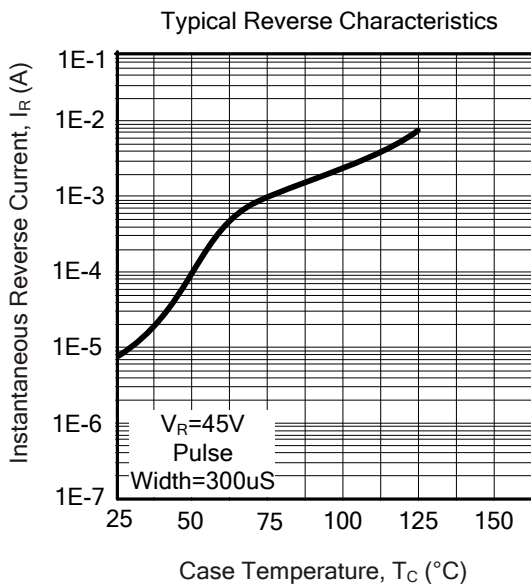
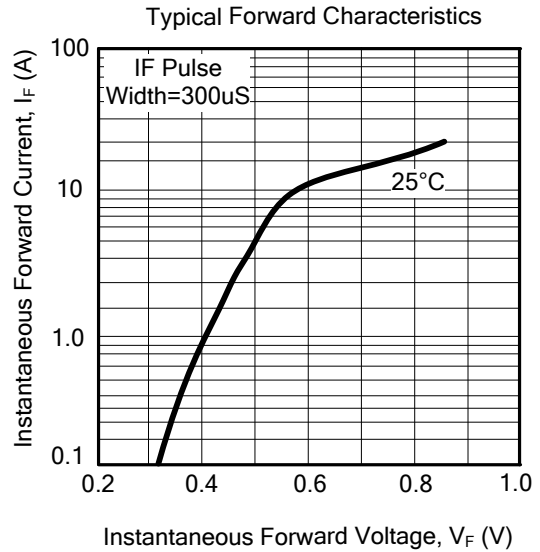
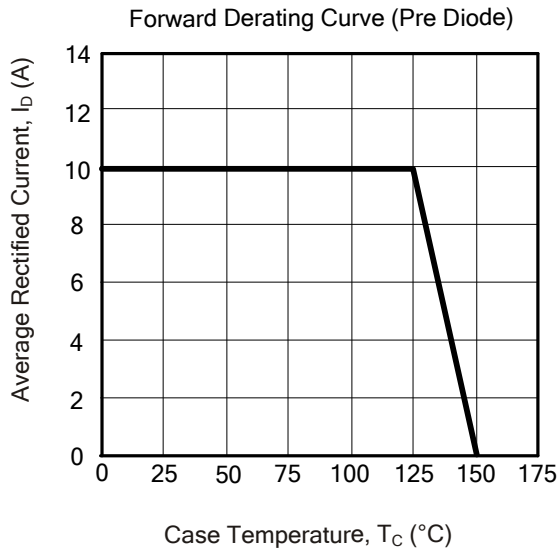
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	60	°C/W
Junction to Case	θ _{JC}	4.5	°C/W

■ ELECTRICAL CHARACTERISTICS (Note)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage Drop	V _{FM}	I _F =10A, T _C =25°C			0.70	V
		I _F =10A, T _C =125°C			0.57	
		I _F =20A, T _C =25°C			0.84	V
		I _F =20A, T _C =125°C			0.72	
Instantaneous Reverse Current	I _{RM}	Rated DC Voltage, T _C =25°C			0.1	mA
		Rated DC Voltage, T _C =125°C			15	

Note: Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0 %.

TYPICAL CHARACTERISTICS



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