



MBR1045C

Preliminary

DIODE

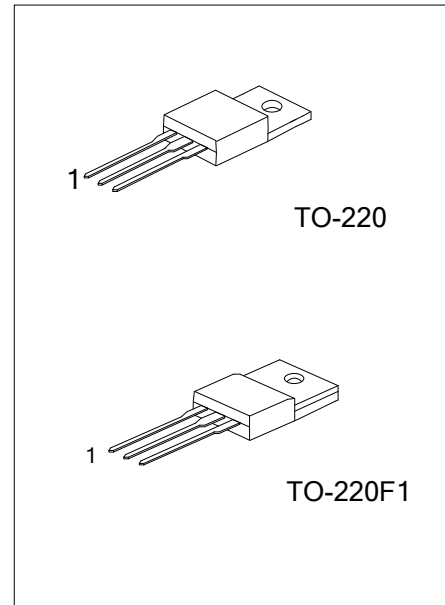
10A SCHOTTKY BARRIER RECTIFIER

DESCRIPTION

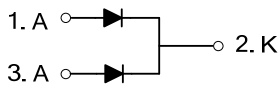
The UTC **MBR1045C** is a Schottky Barrier Rectifier with high efficiency, low power dissipation and high current capacity. It can be applied in high frequency, low voltage inverters, polarity protection and free wheeling applications.

FEATURES

- * High surge capability
- * High efficiency, low power dissipation, high current capability, low forward voltage drop
- * Guardring for overvoltage protection



SYMBOL



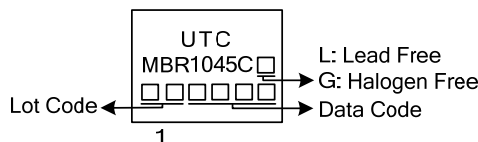
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MBR1045CL-TA3-T	MBR1045CG-TA3-T	TO-220	A	K	A	Tube
MBR1045CL-TF1-T	MBR1045CG-TF1-T	TO-220F1	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MBR1045CL-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF1: TO-220F1</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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MARKING



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

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitance load, derate current by 20%.

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		V _{RM}	45	V
Working Peak Reverse Voltage		V _{RWM}	45	V
Peak Repetitive Reverse Voltage		V _{RRM}	45	V
RMS Reverse Voltage		V _{R(RMS)}	31.5	V
Average Rectified Output Current (T _C =105°C)	Per Leg	I _O	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I _{FSM}	100	A
Repetitive Peak Avalanche Power (1μs, 25°C)		P _{ARM}	5000	W
Operating Junction Temperature		T _J	+150	°C
Storage Temperature		T _{STG}	-55~+150	°C

Note: 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. Thermal resistance junction to case mounted on heatsink.

■ THERMAL DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient		θ _{JA}	60	°C/W
Junction to Case	TO-220	θ _{JC}	2	°C/W
	TO-220F1		4	°C/W

■ ELECTRICAL CHARACTERISTICS (Per Leg) (T_A=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	I _R =0.45mA	45			V
Forward Voltage Drop	V _{FM}	I _F =5A, T _J =25°C			0.65	V
		I _F =5A, T _J =125°C			0.55	V
Leakage Current (Note 1)	I _{RM}	V _R =45V, T _J =25°C			100	μA
		V _R =45V, T _J =125°C			15	mA
Typical Junction Capacitance (Note 3)	C _J				150	pF

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

3. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.

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