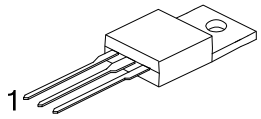
MBR1040C

DIODE

10A SCHOTTKY BARRIER RECTIFIER



TO-220

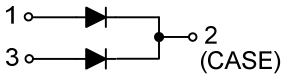
■ DESCRIPTION

The UTC **MBR1040C** 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	
MBR1040CL-TA3-T	MBR1040CG-TA3-T	TO-220	A	K	A	Tube

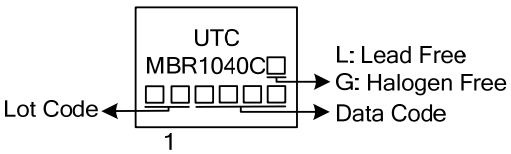
Note: Pin Assignment: A: Anode K: Cathode

MBR1040CL-TA3-T

(1)Packing Type
(2)Package Type
(3)Lead Free

(1) T: Tube
(2) TA3: TO-220
(3) L: Lead Free, G:Halogen Free

■ MARKING



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

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		V_R	40	V
RMS Reverse Voltage		$V_{R(RMS)}$	28	V
Peak Repetitive Reverse Voltage		V_{RRM}	40	V
Working Peak Reverse Voltage		V_{RWM}	40	V
Average Rectified Output Current (Note 2) T_C = 105°C	Per Leg	I_O	5	A
	Total		10	
Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load (JEDEC Method)		I_{FSM}	125	A
Repetitive Peak Reverse Surge Current	t≤2.0μs	I_{RRM}	1.0	A
Operating Temperature		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. 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	θ_{JC}	4.5	

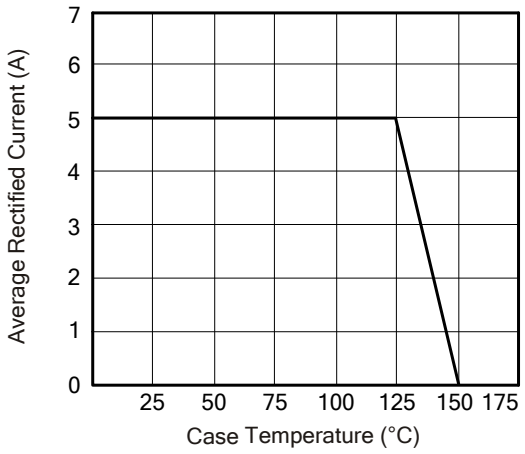
■ ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Forward Voltage Drop (Per Leg) (Note 2)	V_{FM}	I_F=5A, T_C = 25°C			0.60	V
		I_F=5A, T_C = 125°C			0.50	
		I_F=10A, T_C = 25°C			0.80	V
		I_F=10A, T_C = 125°C			0.75	
Peak Reverse Current at Rated DC Blocking Voltage (Note 2)	I_{RM}	I_F=5A, T_C=25°C			100	μA
		I_F=5A, T_C=125°C			15	mA
Typical Junction Capacitance (Note)	C_J				150	pF
Voltage Rate of Change (Rated V_R)	dV/dt				1000	V/μs

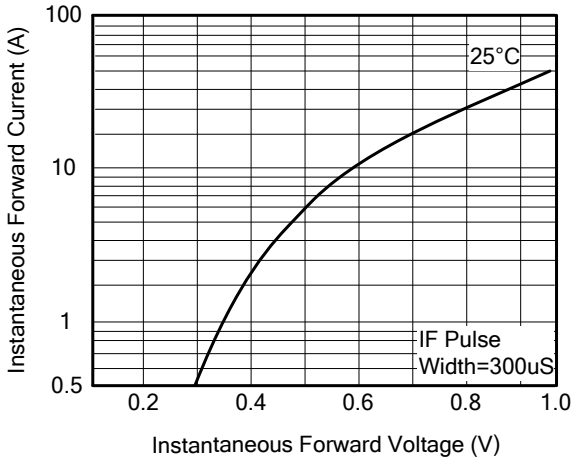
Notes: 1. Measured at 1.0MHz and applied reverse voltage of 4.0V DC
2. Pulse Test: Pulse Width = 300μs, Duty Cycle ≤ 2.0%

■ TYPICAL CHARACTERISTICS

Forward Derating Curve



Typical Forward Characteristics



Typical Reverse Characteristics