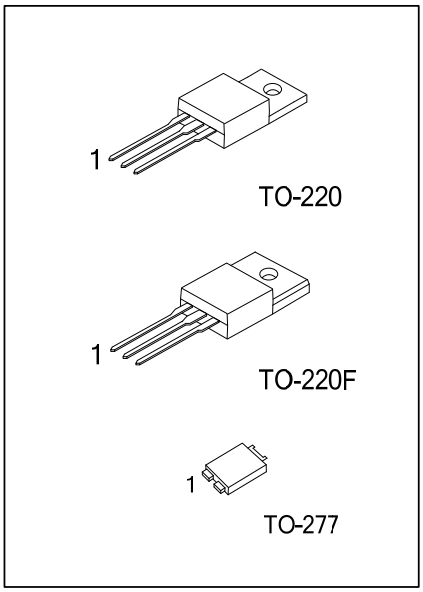
10A SCHOTTKY BARRIER RECTIFIER



■ DESCRIPTION

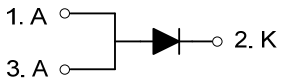
The UTC **MBR10120** is a 10A schottky barrier rectifier, it uses UTC's advanced technology to provide the customers with high surge capability, high efficiency, high current capability, low power loss and low forward voltage drop, etc.

The UTC **MBR10120** is suitable for free wheeling and polarity protection, etc.

■ FEATURES

* Low Reverse Current
* Low Stored Charge, Majority Carrier Conduction
* Low Power Loss/High Efficiency
* Highly Stable Oxide Passivated Junction

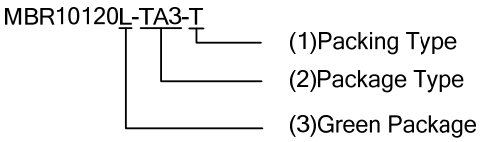
■ SYMBOL



■ ORDERING INFORMATION

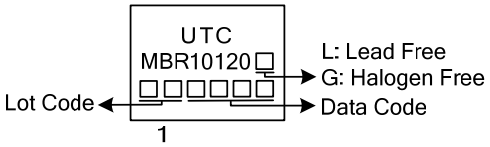
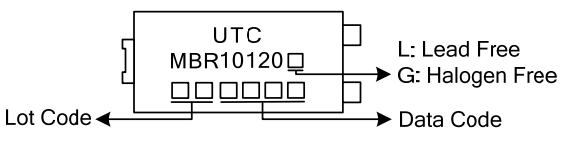
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MBR10120L-TA3-T	MBR10120G-TA3-T	TO-220	A	K	A	Tube
MBR10120L-TF3-T	MBR10120G-TF3-T	TO-220F	A	K	A	Tube
MBR10120L-T27-T	MBR10120G-T27-T	TO-277	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode



(1) T: Tube, R: Tape Reel
(2) TA3: TO-220, TF3: TO-220F, T27: TO-277
(3) L: Lead Free, G: Halogen Free and Lead Free

■ MARKING

TO-220/TO-220F	TO-277
	

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

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

PARAMETER	SYMBOL	RATINGS	UNIT
Working Peak Reverse Voltage	V_{RWM}	120	V
Repetitive Peak Reverse Voltage	V_{RRM}	120	V
Maximum RMS Reverse Voltage	V_{RMS}	70	V
DC Blocking Voltage	V_R	120	V
Average Rectified Output Current (T_A=105°C)	I_O	10	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	110	A
Junction Temperature	T_J	-55~+150	°C
Storage Temperature	T_{STG}	-55~+150	°C

Note: 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.

■ THERMAL CHARACTERISTICS

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220/TO-220F	θ_{JA}	62.5	°C/W
	TO-277		73 (Note)	°C/W
Junction to Case	TO-220	θ_{JC}	2	°C/W
	TO-220F		3.31	°C/W
	TO-277		13 (Note)	°C/W

Note: Mounted on an FR4 PCB, single-sided copper, with 100 cm^2 copper pad area.

■ ELECTRICAL CHARACTERISTICS (Note 2)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Instantaneous Forward Voltage Drop	V_F	I_F=10A, T_C=25°C			0.85	V
		I_F=10A, T_C=125°C			0.80	
Instantaneous Reverse Current	I_R	Rated DC Voltage, T_C=25°C			500	μA
		Rated DC Voltage, T_C=125°C			20	mA

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