



MGBR30V120

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

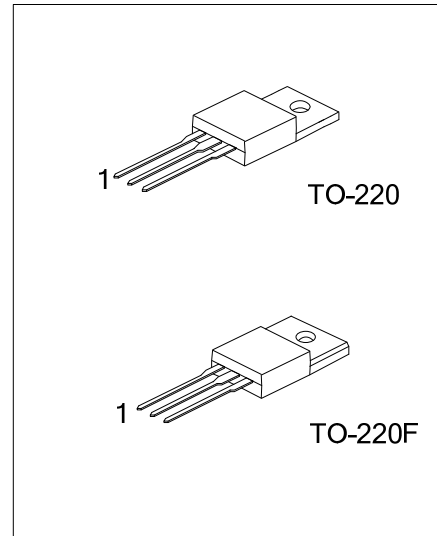
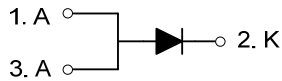
■ DESCRIPTION

The UTC **MGBR30V120** is a mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

■ FEATURES

- * Very low forward voltage drop
- * High switching speed

■ SYMBOL



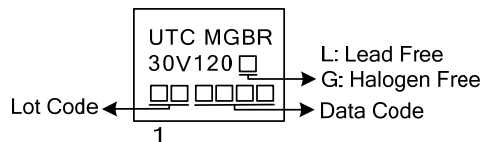
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR30V120L-TA3-T	MGBR30V120G-TA3-T	TO-220	A	K	A	Tube
MGBR30V120L-TF3-T	MGBR30V120G-TF3-T	TO-220F	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR30V120L-TA3-T</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA3: TO-220, TF3: TO-220F, TN3: TO-252</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ 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}	120	V
Working Peak Reverse Voltage	V_{RWM}	120	V
Peak Repetitive Reverse Voltage	V_{RRM}	120	V
Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% Duty Cycle	I_O	30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	300	A
Operating Junction Temperature	T_J	-65 ~ +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-65 ~ +150	$^{\circ}\text{C}$

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 (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	θ_{JC}	2	$^{\circ}\text{C}/\text{W}$
		4	

■ ELECTRICAL CHARACTERISTICS (PER LEG) ($T_A=25^{\circ}\text{C}$ unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.50\text{mA}$	120			V
Forward Voltage Drop	V_{FM}	$I_F=30\text{A}, T_J=25^{\circ}\text{C}$			0.83	V
		$I_F=30\text{A}, T_J=125^{\circ}\text{C}$			0.68	V
Leakage Current	I_{RM}	$V_R=120\text{V}, T_J=25^{\circ}\text{C}$			150	μA
		$V_R=120\text{V}, T_J=125^{\circ}\text{C}$			20	mA

Note: Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

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