



## MGBR20L300

DIODE

### MOS GATED BARRIER RECTIFIER

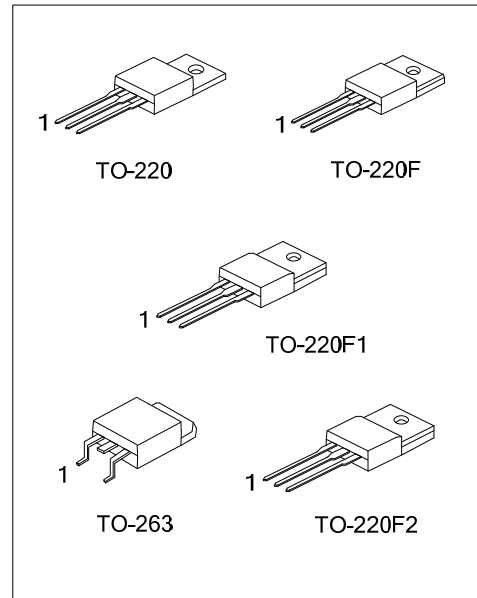
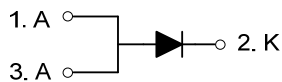
#### DESCRIPTION

The UTC **MGBR20L300** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

#### FEATURES

- \* Low forward voltage drop
- \* High switching speed

#### SYMBOL



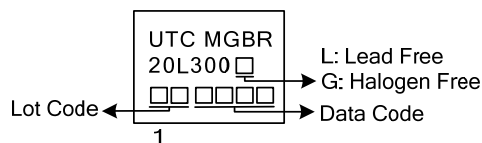
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20L300L-TA3-T	MGBR20L300G-TA3-T	TO-220	A	K	A	Tube
MGBR20L300L-TF3-T	MGBR20L300G-TF3-T	TO-220F	A	K	A	Tube
MGBR20L300L-TF1-T	MGBR20L300G-TF1-T	TO-220F1	A	K	A	Tube
MGBR20L300L-TF2-T	MGBR20L300G-TF2-T	TO-220F2	A	K	A	Tube
MGBR20L300L-TQ2-T	MGBR20L300G-TQ2-T	TO-263	A	K	A	Tube
MGBR20L300L-TQ2-R	MGBR20L300G-TQ2-R	TO-263	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Common Cathode

<p>MGBR20L300L-TA3-T</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) T: Tube, R: Tape Reel</li> <li>(2) TA3: TO-220, TF3: TO-220F, TF1: TO-220F1, TF2: TO-220F2, TQ2: TO-263</li> <li>(3) L: Lead Free, G: Halogen Free and Lead Free</li> </ul>
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=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 <sub>RM</sub>	300	V
Working Peak Reverse Voltage		V <sub>RWM</sub>	300	V
Peak Repetitive Reverse Voltage		V <sub>RRM</sub>	300	V
Average Rectified Output Current	T <sub>C</sub> =140°C	I <sub>O</sub>	20	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I <sub>FSM</sub>	235	A
Operating Junction Temperature		T <sub>J</sub>	-65~+150	°C
Storage Temperature		T <sub>STG</sub>	-65~+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 (Note 3)

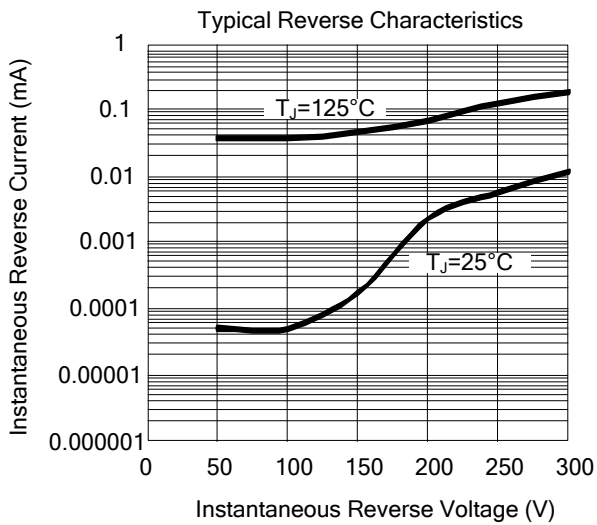
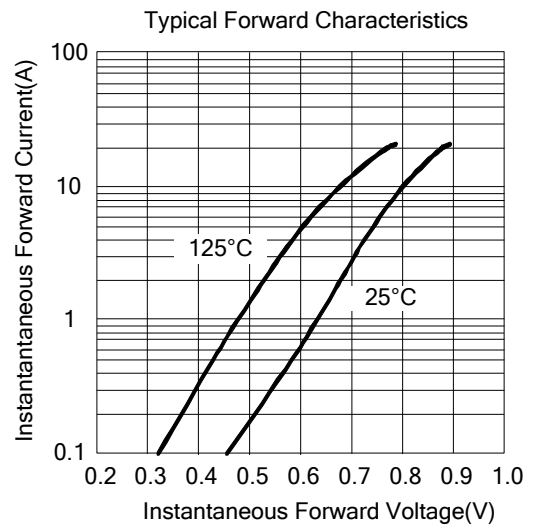
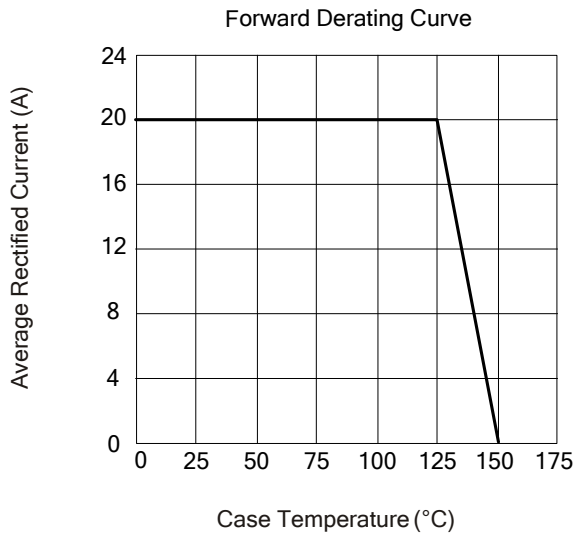
PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient		θ <sub>JA</sub>	62.5	°C/W
Junction to Case	TO-220/TO-263	θ <sub>JC</sub>	2	°C/W
	TO-220F/TO-220F1		4	
	TO-220F2			

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	I <sub>R</sub> =0.5mA	300			V
Forward Voltage Drop	V <sub>FM</sub>	I <sub>F</sub> =20A, T <sub>J</sub> =25°C		0.88	0.92	V
		I <sub>F</sub> =20A, T <sub>J</sub> =125°C		0.80	0.81	V
Leakage Current (Note 1)	I <sub>RM</sub>	V <sub>R</sub> =300V, T <sub>J</sub> =25°C			100	μA
		V <sub>R</sub> =300V, T <sub>J</sub> =125°C			10	mA

- Notes: 1. Short duration pulse test used to minimize self-heating effect.  
 2. Thermal resistance junction to case mounted on heatsink.  
 3. Mounted on an FR4 PCB, single-sided copper, with 100 cm<sup>2</sup> copper pad area.

■ TYPICAL CHARACTERISTICS



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