



**MGBR40S300C**

Preliminary

**DIODE**

**DUAL MOS GATED BARRIER RECTIFIER**

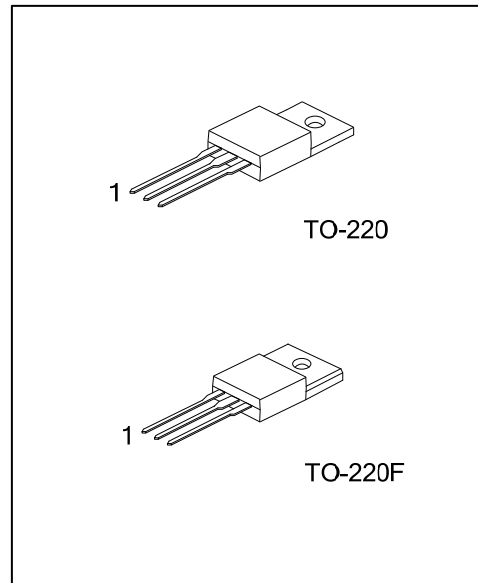
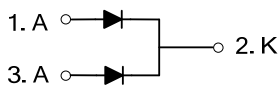
■ DESCRIPTION

The UTC **MGBR40S300C** is a dual mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

■ FEATURES

- \* Super low forward voltage drop
- \* High switching speed

■ SYMBOL



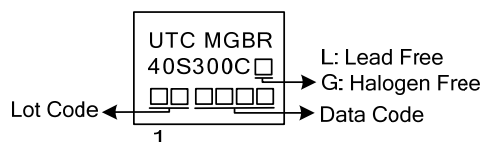
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR40S300CL-TA3-T	MGBR40S300CG-TA3-T	TO-220	A	K	A	Tube
MGBR40S300CL-TF3-T	MGBR40S300CG-TF3-T	TO-220F	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR40S300CL-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube (2) TA3: TO-220, TF3: TO-220F (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (PER LEG) ( $T_A=25^{\circ}\text{C}$  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		$V_{RM}$	300	V
Working Peak Reverse Voltage		$V_{RWM}$	300	V
Peak Repetitive Reverse Voltage		$V_{RRM}$	300	V
Average Rectified Output Current Per Device	Per Leg	$I_o$	20	A
	Total		40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		$I_{FSM}$	235	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	TO-220	$\theta_{JC}$	2	$^{\circ}\text{C}/\text{W}$
	TO-220F		4	$^{\circ}\text{C}/\text{W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	300			V
Forward Voltage Drop	$V_{FM}$	$I_F=20\text{A}, T_J=25^{\circ}\text{C}$			0.94	V
		$I_F=20\text{A}, T_J=125^{\circ}\text{C}$			0.83	V
Leakage Current (Note 1)	$I_{RM}$	$V_R=300\text{V}, T_J=25^{\circ}\text{C}$			100	$\mu\text{A}$
		$V_R=300\text{V}, T_J=125^{\circ}\text{C}$			10	$\text{mA}$

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

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