

**MGBR40S300C**

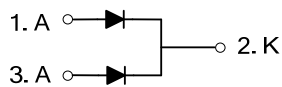
Preliminary

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

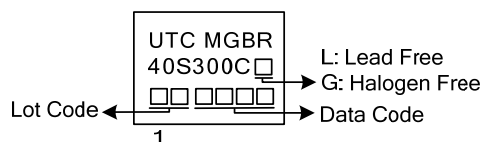
- * Super low forward voltage drop
- * High switching speed

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

MGBR40S300CL-TA3-T (1) Packing Type (2) Package Type (3) Green Package	(1) T: Tube (2) TA3: TO-220, TF3: TO-220F (3) L: Lead Free, G: Halogen Free and Lead Free
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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	θ_{JC}	2	$^{\circ}\text{C/W}$
	TO-220F		4	$^{\circ}\text{C/W}$

■ **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	μA
		$V_R=300\text{V}, T_J=125^{\circ}\text{C}$			10	mA

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

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