



## MGBR20L40C

Preliminary

DIODE

### DUAL MOS GATED BARRIER RECTIFIERS

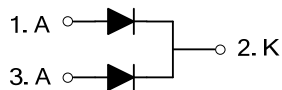
#### DESCRIPTION

The UTC **MGBR20L40C** is a dual mos gated barrier rectifiers, it uses UTC's advanced technology to provide customers with high current capability, low forward voltage and high switching speed, etc.

#### FEATURES

- \* Low forward voltage
- \* High switching speed
- \* High current capability

#### SYMBOL



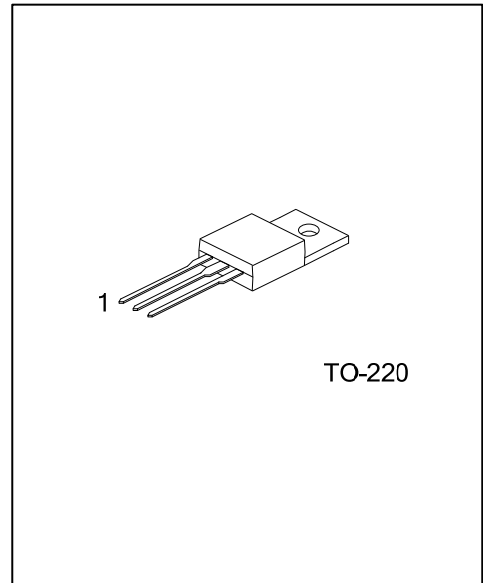
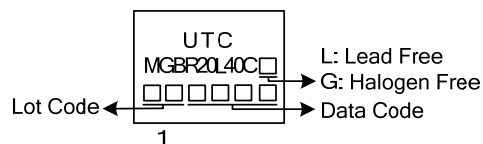
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20L40CL-TA3-T	MGBR20L40CG-TA3-T	TO-220	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR20L40CL-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220</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		$V_{RM}$	40	V
Working Peak Reverse Voltage		$V_{RWM}$	40	V
Peak Repetitive Reverse Voltage		$V_{RRM}$	40	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave) – 50% duty cycle	Per Leg	$I_O$	10	A
	Total		20	A
Peak Forward Surge Current - 1/2 60Hz		$I_{FSM}$	120	A
Peak Repetitive Reverse Surge Current (2 $\mu$ S-1KHz)		$I_{RRM}$	2	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
Junction to Ambient	$\theta_{JA}$	62.5	$^{\circ}\text{C/W}$
Junction to Case	$\theta_{JC}$	2	$^{\circ}\text{C/W}$

■ 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)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	40			V
Instantaneous Forward Voltage	$V_{FM}$	$I_F=20\text{A}, T_J=25^{\circ}\text{C}$			0.55	V
		$I_F=20\text{A}, T_J=125^{\circ}\text{C}$			0.53	V
Instantaneous Reverse Current (Note 1)	$I_{RM}$	$V_R=40\text{V}, T_J=25^{\circ}\text{C}$			500	$\mu\text{A}$
		$V_R=40\text{V}, T_J=125^{\circ}\text{C}$			100	mA

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

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