



## MGBR20U60C

Preliminary

DIODE

### DUAL MOS GATED BARRIER RECTIFIERS

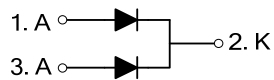
#### DESCRIPTION

The UTC **MGBR20U60C** 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

- \* Ultra low forward voltage
- \* High switching speed
- \* High current capability

#### SYMBOL



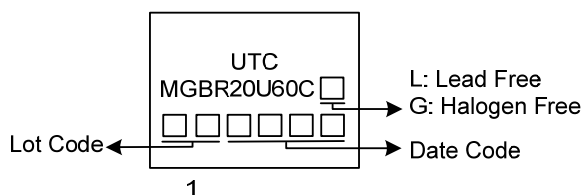
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20U60CL-TA3-T	MGBR20U60CG-TA3-T	TO-220	A	K	A	Tube
MGBR20U60CL-TF3-T	MGBR20U60CG-TF3-T	TO-220F	A	K	A	Tube
MGBR20U60CL-TND-R	MGBR20U60CG-TND-R	TO-252D	A	K	A	Tape Reel
MGBR20U60CL-TQ2-T	MGBR20U60CG-TQ2-T	TO-263	A	K	A	Tube
MGBR20U60CL-TQ2-R	MGBR20U60CG-TQ2-R	TO-263	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

MGBR20U60CG-TA3-T	(1)Packing Type	(1) T: Tube, R: Tape Reel
	(2)Package Type	(2) TA3: TO-220, TF3: TO-220F, TND: TO-252D, TQ2: TO-263
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free

#### MARKING



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^{\circ}\text{C}$  unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
DC Blocking Voltage		$V_{RM}$	60	V
Working Peak Reverse Voltage		$V_{RWM}$	60	V
Peak Repetitive Reverse Voltage		$V_{RRM}$	60	V
Average Rectified Forward Current	Per Leg	$I_O$	10	A
	Total		20	A
Operating Junction Temperature		$T_J$	$-40 \sim +150$	$^{\circ}\text{C}$
Storage Temperature		$T_{STG}$	$-40 \sim +150$	$^{\circ}\text{C}$

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	TO-220/TO-220F	$\theta_{JA}$	62.5	$^{\circ}\text{C/W}$
	TO-263			
	TO-252D		110	$^{\circ}\text{C/W}$
Junction to Case	TO-220/TO-263	$\theta_{JC}$	2	$^{\circ}\text{C/W}$
	TO-220F		3.31	$^{\circ}\text{C/W}$
	TO-252D		2.5	$^{\circ}\text{C/W}$

Note: Device mounted on FR-4 substrate PC board, 2oz copper, with 1inch square copper plate.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.60\text{mA}$	60			V
Instantaneous Forward Voltage	$V_{FM}$	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$		0.40		V
		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$		0.37		V
		$I_F=10\text{A}, T_J=25^{\circ}\text{C}$			0.49	V
		$I_F=10\text{A}, T_J=125^{\circ}\text{C}$			0.44	V
Instantaneous Reverse Current (Note 1)	$I_{RM}$	$V_{RM}=60\text{V}, T_J=25^{\circ}\text{C}$			500	$\mu\text{A}$
		$V_{RM}=60\text{V}, T_J=125^{\circ}\text{C}$			20	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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