



## MGBR10S50C

Preliminary

DIODE

### DUAL MOS GATED BARRIER RECTIFIER

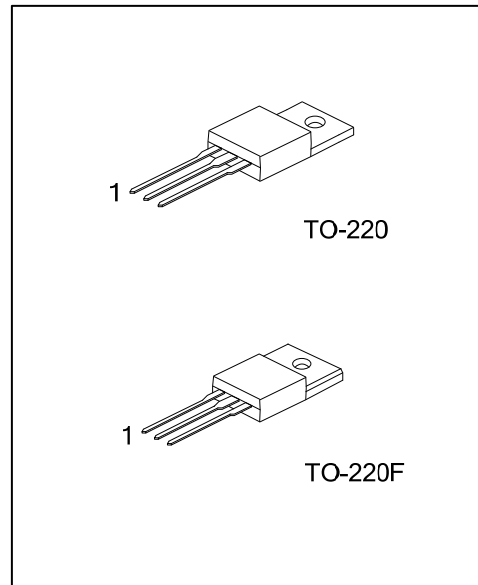
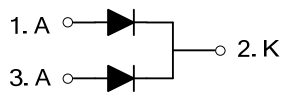
#### DESCRIPTION

The UTC **MGBR10S50C** is a dual mos gated barrier rectifiers, 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



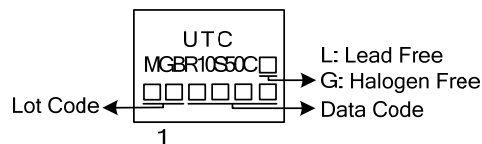
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10S50CL-TA3-T	MGBR10S50CG-TA3-T	TO-220	A	K	A	Tube
MGBR10S50CL-TF3-T	MGBR10S50CG-TF3-T	TO-220F	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

MGBR10S50CL-TA3-T	(1)Packing Type	(1) T: Tube
	(2)Package Type	(2) TA3: TO-220, TF3: TO-220F
	(3)Lead Free	(3) L: Lead Free, G: Halogen Free

#### 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		$V_{RM}$	50	V
Working Peak Reverse Voltage		$V_{RWM}$	50	V
Peak Repetitive Reverse Voltage		$V_{RRM}$	50	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave) – 50% duty cycle	Per Leg	$I_o$	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		$I_{FSM}$	150	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 DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient		$\theta_{JA}$	62.5	$^\circ\text{C}/\text{W}$
Junction to Case	TO-220	$\theta_{JC}$	2	$^\circ\text{C}/\text{W}$
	TO-220F		3.31	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	50			V
Forward Voltage Drop	$V_{FM}$	$I_F=5\text{A}, T_J=25^\circ\text{C}$			0.46	V
		$I_F=5\text{A}, T_J=125^\circ\text{C}$			0.41	V
Leakage Current (Note 1)	$I_{RM}$	$V_R=50\text{V}, T_J=25^\circ\text{C}$		50	500	$\mu\text{A}$
		$V_R=50\text{V}, T_J=125^\circ\text{C}$		15	50	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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