



**MGBR10L50**

Preliminary

**DIODE**

**MOS GATED BARRIER RECTIFIER**

■ DESCRIPTION

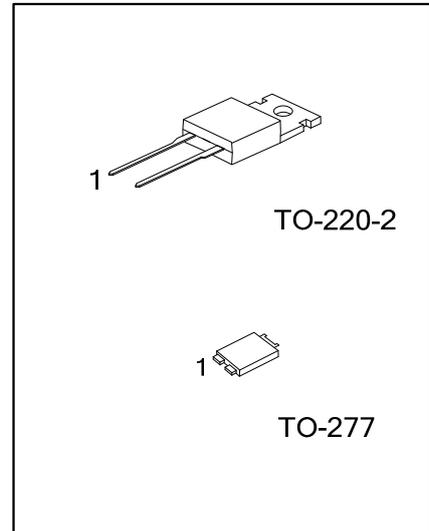
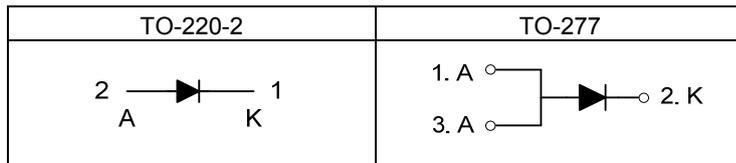
The UTC **MGBR10L50** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

The UTC **MGBR10L50** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.

■ FEATURES

- \* Low forward voltage drop
- \* High current capability
- \* High surge capability
- \* High efficiency

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10L50L-TA2-T	MGBR10L50G-TA2-T	TO-220-2	A	K	-	Tube
MGBR10L50L-T27-R	MGBR10L50G-T27-R	TO-277	A	K	A	Tape Reel

Note: Pin Assignment: A: Anode, K: Cathode

<p>MGBR10L50L-TA2-T</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA2: TO-220-2, T27: TO-277</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ MARKING INFORMATION

PACKAGE	MARKING
TO-220-2	
TO-277	

■ 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 (Note 1)	$V_{RM}$	50	V
Working Peak Reverse Voltage	$V_{RWM}$	50	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	50	V
RMS Reverse Voltage	$V_{R(RMS)}$	35	V
Average Rectified Output Current	$I_O$	10	A
$T_C=125^\circ\text{C}$			
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	150	A
Repetitive Peak Avalanche Power (1 $\mu\text{s}$ , 25 $^\circ\text{C}$ )	$P_{ARM}$	5000	W
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

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220-2	60	$^\circ\text{C/W}$
	TO-277	73 (Note 3)	
Junction to Case	TO-220-2	2.5	$^\circ\text{C/W}$
	TO-277	13 (Note 3)	

■ 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	$V_{FM}$	$I_F=10\text{A}, T_C=25^\circ\text{C}$			0.60	V
		$I_F=10\text{A}, T_C=125^\circ\text{C}$			0.55	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 1)	$I_{RM}$	$V_R=50\text{V}, T_C=25^\circ\text{C}$			300	$\mu\text{A}$
		$V_R=50\text{V}, T_C=125^\circ\text{C}$			25	mA

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

2. Thermal resistance junction to case mounted on heatsink.

3. Mounted on an FR4 PCB, single-sided copper, with 100cm<sup>2</sup> copper pad area.

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