



**MGBR10S45**

Preliminary

**DIODE**

**MOS GATED BARRIER  
RECTIFIER**

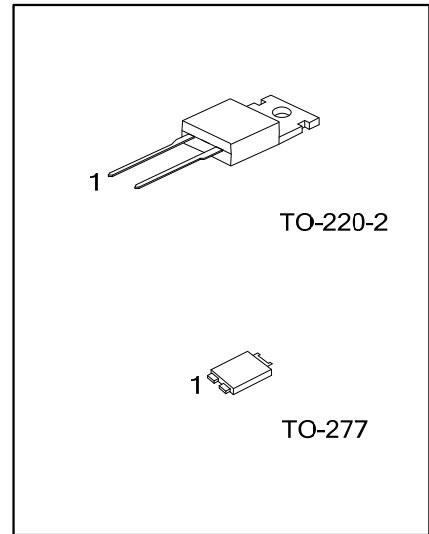
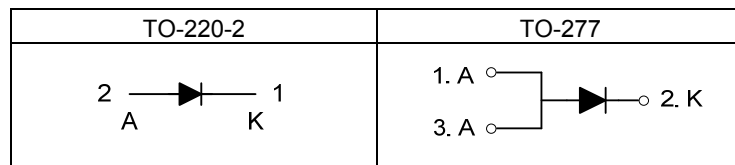
■ DESCRIPTION

The UTC **MGBR10S45** is a surface mount 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	
MGBR10S45L-TA2-T	MGBR10S45G-TA2-T	TO-220-2	K	A	-	Tube
MGBR10S45L-T27-R	MGBR10S45G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>MGBR10S45L-TA2-T</p> <p>(1) Packing Type (2) Package Type (3) Lead Free</p>	<p>(1) T: Tube, R: Tape Reel (2) TA2: TO-220-2, T27: TO-277 (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	$V_{RM}$	45	V
Working Peak Reverse Voltage	$V_{RWM}$	45	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	V
Average Rectified Output Current	$I_O$	10	A
$T_C=140^\circ\text{C}$			
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	$^\circ\text{C}/\text{W}$
	TO-277	73 (Note 3)	
Junction to Case	TO-220-2	2	$^\circ\text{C}/\text{W}$
	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)	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	$V_{FM}$	$I_F=10\text{A}$ , $T_J=25^\circ\text{C}$			0.48	V
		$I_F=10\text{A}$ , $T_J=125^\circ\text{C}$			0.43	V
Leakage Current (Note 1)	$I_{RM}$	$V_R=45\text{V}$ , $T_J=25^\circ\text{C}$		50	500	$\mu\text{A}$
		$V_R=45\text{V}$ , $T_J=125^\circ\text{C}$		12	40	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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