



MGBR12L45

DIODE

MOS GATED BARRIER RECTIFIER

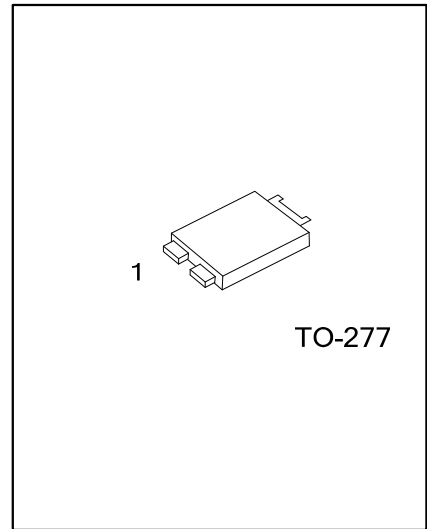
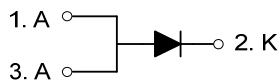
DESCRIPTION

The UTC **MGBR12L45** 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

- * Low forward voltage drop
- * High switching speed

SYMBOL



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR12L45L-T27-R	MGBR12L45G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>MGBR12L45L-T27-R</p>	<p>(1) R: Tape Reel</p> <p>(2) T27: TO-227</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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MARKING INFORMATION

PACKAGE	MARKING
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
Average Rectified Output Current	I_O	12	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	180	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 (Note 3)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	73	$^{\circ}\text{C}/\text{W}$
Junction to Case	θ_{JC}	13	$^{\circ}\text{C}/\text{W}$

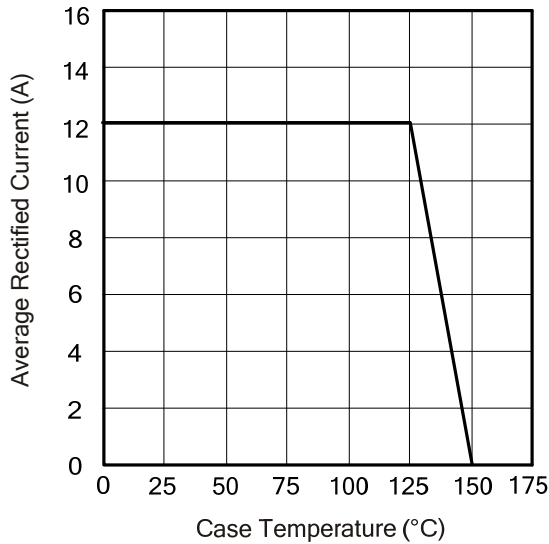
■ ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=12\text{A}, T_J=25^{\circ}\text{C}$			0.60	V
		$I_F=12\text{A}, T_J=125^{\circ}\text{C}$			0.55	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}, T_J=25^{\circ}\text{C}$		50	300	μA
		$V_R=45\text{V}, T_J=125^{\circ}\text{C}$		17	75	mA

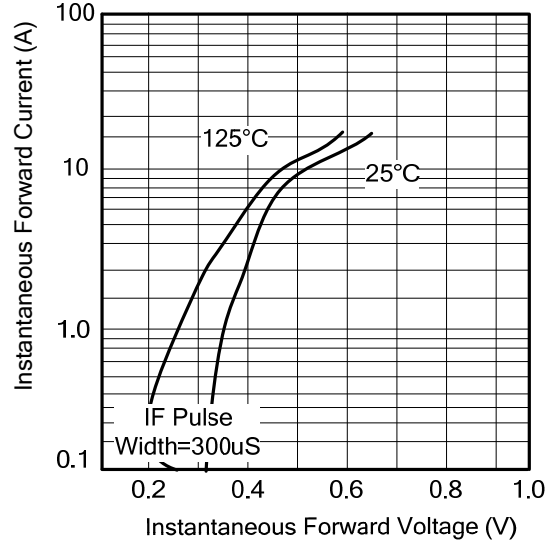
Notes: 1. Short duration pulse test used to minimize self-heating effect.
 2. Thermal resistance junction to case mounted on heatsink.
 3. Mounted on an FR4 PCB, single-sided copper, with 100cm² copper pad area.

■ TYPICAL CHARACTERISTICS

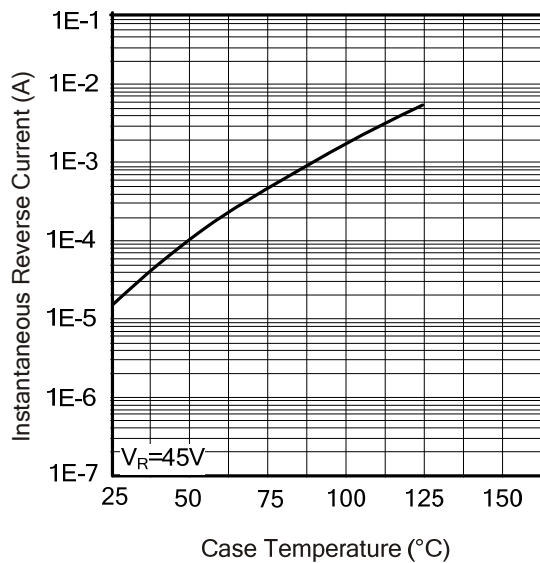
Forward Derating Curve



Typical Forward Characteristics



Typical Reverse Characteristics



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