



MGBR12L30

Preliminary

DIODE

**MOS GATED BARRIER
RECTIFIER**

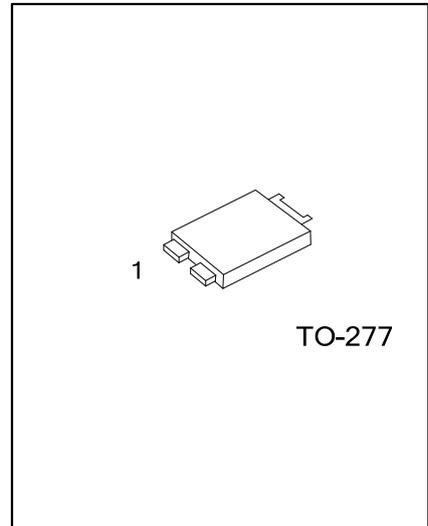
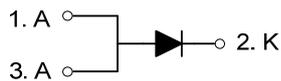
■ DESCRIPTION

The UTC **MGBR12L30** 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	
MGBR12L30L-T27-R	MGBR12L30G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>MGBR12L30L-T27-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</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	<p>UTC MGBR12L30</p> <p>Lot Code ← [] → Data Code</p> <p>L: Lead Free G: Halogen Free</p>

■ 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}	30	V
Working Peak Reverse Voltage	V_{RWM}	30	V
Peak Repetitive Reverse Voltage	V_{RRM}	30	V
RMS Reverse Voltage	$V_{R(RMS)}$	21	V
Average Rectified Output Current	I_O	12	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}	200	A
Repetitive Peak Avalanche Power (1 μs , 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 (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)	$V_{(BR)R}$	$I_R=1\text{mA}$	30			V
Forward Voltage Drop	V_{FM}	$I_F=12\text{A}$, $T_J=25^{\circ}\text{C}$			0.54	V
		$I_F=12\text{A}$, $T_J=125^{\circ}\text{C}$			0.49	V
Leakage Current (Note 1)	I_{RM}	$V_R=30\text{V}$, $T_J=25^{\circ}\text{C}$		100	500	μA
		$V_R=30\text{V}$, $T_J=125^{\circ}\text{C}$		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 100 cm^2 copper pad area.

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