



MGBR12L40

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

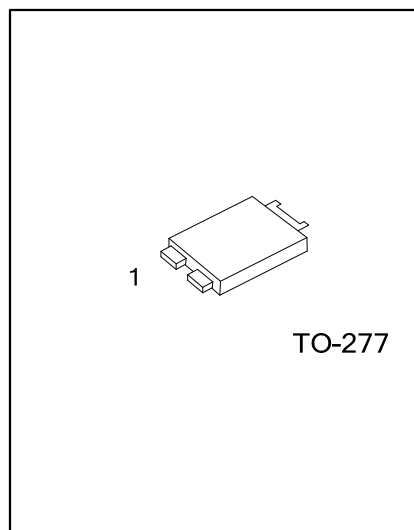
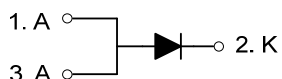
DESCRIPTION

The UTC **MGBR12L40** is a surface mount mos gatedbarrier rectifier,it uses UTC's advanced technology to provide customers withlow 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	
MGBR12L40L-T27-R	MGBR12L40G-T27-R	TO-277	A	K	A	Tape Reel

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

MGBR12L40L-T27-R (1)Packing Type (2)Package Type (3)Lead Free	(1) R: Tape Reel (2) T27: TO-227 (3) L: Lead Free, G: Halogen Free
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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}	40	V
Working Peak Reverse Voltage	V_{RWM}	40	V
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Average Rectified Output Current $T_C=140^{\circ}\text{C}$	I_O	12	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	180	A
Repetitive Peak Avalanche Power (1 μs , 25°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)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	40			V
Forward Voltage Drop	V_{FM}	$I_F=12\text{A}$, $T_J=25^{\circ}\text{C}$			0.57	V
		$I_F=12\text{A}$, $T_J=125^{\circ}\text{C}$			0.52	V
Leakage Current (Note 1)	I_{RM}	$V_R=40\text{V}$, $T_J=25^{\circ}\text{C}$		80	300	μA
		$V_R=40\text{V}$, $T_J=125^{\circ}\text{C}$		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 100cm² copper pad area.

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