



## MGBR10S40

Preliminary

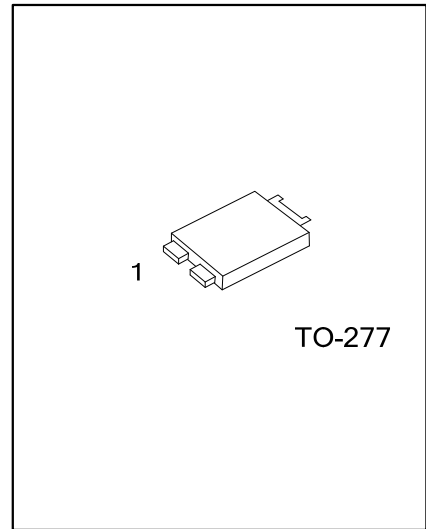
DIODE

### MOS GATED BARRIER RECTIFIER

#### DESCRIPTION

The UTC **MGBR10S40** 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.

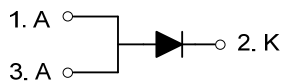
The UTC **MGBR10S40** suitable for free wheeling, high frequency inverters, polarity protection, and low voltage.



#### FEATURES

- \* Super low forward voltage drop
- \* High current capability
- \* High surge capability
- \* High efficiency

#### SYMBOL



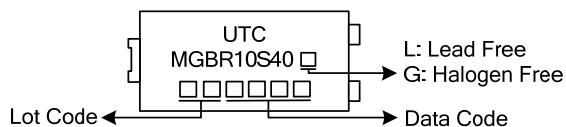
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10S40L-T27-R	MGBR10S40G-T27-R	TO-277	A	K	A	Tape Reel

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

MGBR10S40L-T27-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) T27: TO-227
	(3)Lead Free	(3) L: Lead Free, G: Halogen Free

#### MARKING



■ 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)	$V_{RM}$	40	V
Working Peak Reverse Voltage	$V_{RWM}$	40	V
Peak Repetitive Reverse Voltage	$V_{RRM}$	40	V
RMS Reverse Voltage	$V_{R(RMS)}$	28	V
Average Rectified Output Current	$I_O$	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	175	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

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	$\theta_{JA}$	73	$^{\circ}\text{C}/\text{W}$
Junction to Case	$\theta_{JC}$	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)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	40			V
Forward Voltage Drop	$V_{FM}$	$I_F=10\text{A}, T_C=25^{\circ}\text{C}$			0.47	V
		$I_F=10\text{A}, T_C=125^{\circ}\text{C}$			0.42	V
Peak Reverse Current at Rated DC Blocking Voltage (Note 1)	$I_{RM}$	$V_R=40\text{V}, T_C=25^{\circ}\text{C}$			500	$\mu\text{A}$
		$V_R=40\text{V}, T_C=125^{\circ}\text{C}$			50	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  $100\text{cm}^2$  copper pad area.

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