



MGBR10S40

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

■ DESCRIPTION

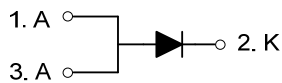
The UTC **MGBR10S40** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high current capability, etc.

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



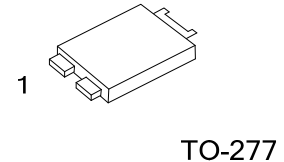
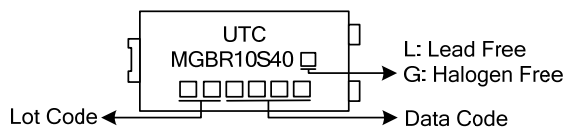
■ ORDERING INFORMATION

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 $T_C=125^{\circ}\text{C}$	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	θ_{JA}	73	$^{\circ}\text{C/W}$
Junction to Case	θ_{JC}	13	$^{\circ}\text{C/W}$

■ 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	μA
		$V_R=40\text{V}, T_C=125^{\circ}\text{C}$			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 100cm² copper pad area.

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