



## MGBR10U300M1

DIODE

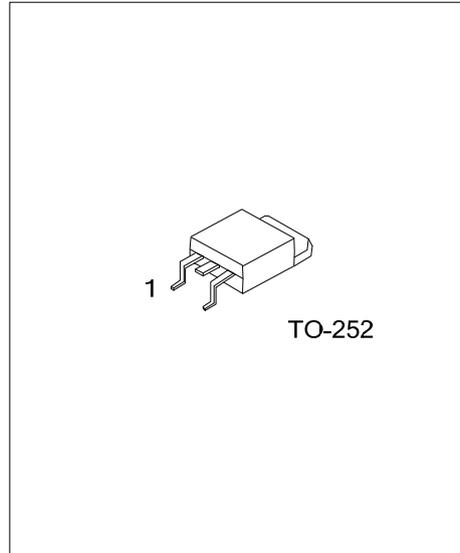
### MOS GATED BARRIER RECTIFIER

#### DESCRIPTION

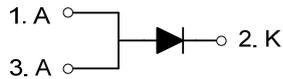
The UTC **MGBR10U300M1** is a surface mount mos gated barrier rectifier, it uses UTC's advanced technology to provide customers with low forward voltage drop and high switching speed, etc.

#### FEATURES

- \* MSL1 Robust Package Design
- \* Ultra low forward voltage drop
- \* High switching speed
- \* Green & Pb free



#### SYMBOL



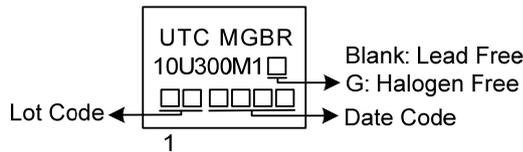
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Pb Free	Halogen Free		1	2	3	
MGBR10U300M1-TN3-R	MGBR10U300M1G-TN3-R	TO-252	A	K	A	Tape Reel

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

MGBR10U300M1G-TN3-R	(1) Packing Type (2) Package Type (3) Green Package	(1) R: Tape Reel (2) TN3: TO-252 (3) G: Halogen Free and Lead Free, Blank: Pb free
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#### MARKING



■ ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°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 <sub>RM</sub>	300	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	300	V
Peak Repetitive Reverse Voltage	V <sub>RPM</sub>	300	V
Average Rectified Output Current	I <sub>O</sub>	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	160	A
Power Dissipation (T <sub>C</sub> =25°C)	P <sub>D</sub>	20	W
Operating Junction Temperature	T <sub>J</sub>	-65 ~ +150	°C
Storage Temperature	T <sub>STG</sub>	-65 ~ +150	°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)

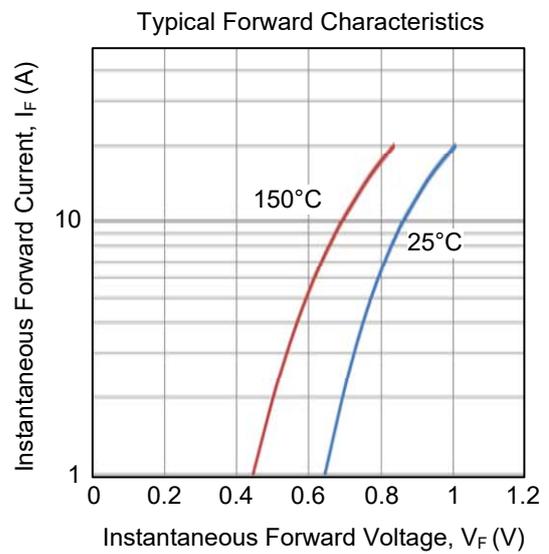
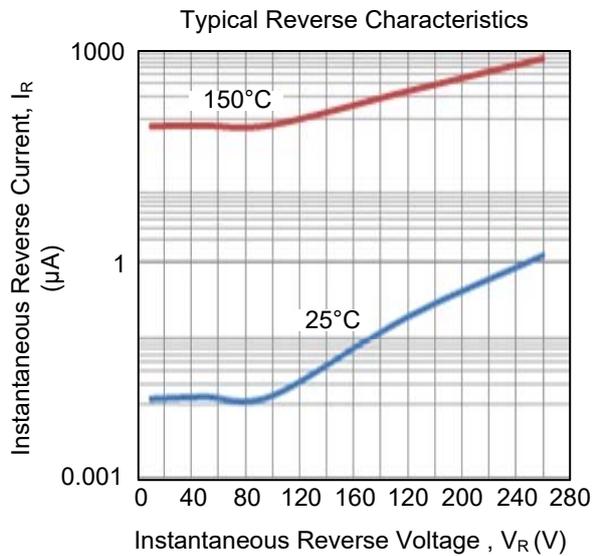
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	110	°C/W
Junction to Case	θ <sub>JC</sub>	6	°C/W

■ ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V <sub>(BR)R</sub>	I <sub>R</sub> =0.5mA	300			V
Forward Voltage Drop	V <sub>FM</sub>	I <sub>F</sub> =10A, T <sub>J</sub> =25°C			0.85	V
		I <sub>F</sub> =10A, T <sub>J</sub> =125°C			0.75	V
Leakage Current (Note 1)	I <sub>RM</sub>	V <sub>R</sub> =300V, T <sub>J</sub> =25°C			100	μA
		V <sub>R</sub> =300V, T <sub>J</sub> =125°C			10	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<sup>2</sup> copper pad area.

■ TYPICAL CHARACTERISTICS



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