



**MGBR5L100**

Preliminary

**DIODE**

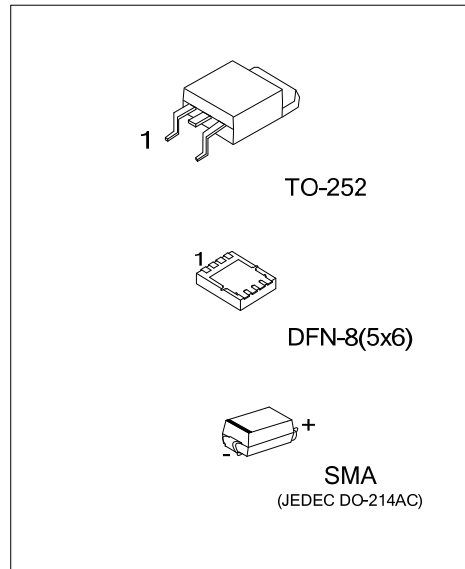
**MOS GATED BARRIER RECTIFIER**

■ DESCRIPTION

The UTC **MGBR5L100** 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

SMA	TO-252	DFN-8(5x6)

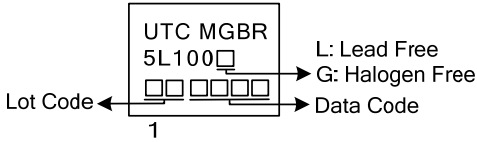
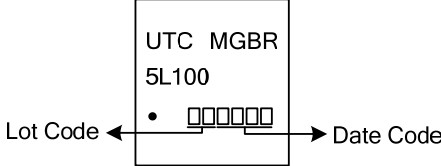
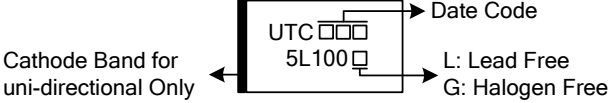
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing	
Lead Free	Halogen Free		1	2	3	4	5	6	7	8		
MGBR5L100L-TN3-T	MGBR5L100G-TN3-T	TO-252	A	K	A	-	-	-	-	-	-	Tube
-	MGBR5L100G-K08-5060-R	DFN-8(5x6)	A	A	A	NC	K	K	K	K	-	Tape Reel
MGBR5L100L-SMA-R	MGBR5L100G-SMA-R	SMA	K	A	-	-	-	-	-	-	-	Tape Reel

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR5L100L-TN3-T</p> <ul style="list-style-type: none"> <li>(1) Packing Type</li> <li>(2) Package Type</li> <li>(3) Green Package</li> </ul>	<ul style="list-style-type: none"> <li>(1) T: Tube, R: Tape Reel</li> <li>(2) TN3: TO-252, K08-5060: DFN-8(5x6), SMA: SMA</li> <li>(3) L: Lead Free, G: Halogen Free and Lead Free</li> </ul>
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### MARKING

Package	MARKING
TO-252	 <p>Diagram showing marking on a TO-252 package. The marking includes 'UTC MGBR', '5L100', and a date code. A 'Lot Code' is indicated on the left and a 'Data Code' on the right. A '1' is shown below the date code. Legend: L: Lead Free, G: Halogen Free.</p>
DFN-8(5x6)	 <p>Diagram showing marking on a DFN-8(5x6) package. The marking includes 'UTC MGBR', '5L100', and a date code. A 'Lot Code' is indicated on the left and a 'Date Code' on the right.</p>
SMA	 <p>Diagram showing marking on an SMA package. The marking includes 'UTC', '5L100', and a date code. A 'Cathode Band for uni-directional Only' is indicated on the left. Legend: L: Lead Free, G: Halogen Free.</p>

■ 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>	100	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	100	V
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	100	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	70	V
Average Rectified Output Current	I <sub>O</sub>	5	A
T <sub>C</sub> =80°C			
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	100	A
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 DATA (Note 3)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	32	°C/W
		72	
		75	
Junction to Case	θ <sub>JC</sub>	2.5	°C/W
		2.4	
		35	

■ 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	100			V
Forward Voltage Drop	V <sub>FM</sub>	I <sub>F</sub> =5A, T <sub>J</sub> =25°C			0.80	V
		I <sub>F</sub> =5A, T <sub>J</sub> =125°C			0.75	V
Leakage Current (Note 1)	I <sub>RM</sub>	V <sub>R</sub> =100V, T <sub>J</sub> =25°C			250	μA
		V <sub>R</sub> =100V, T <sub>J</sub> =125°C			25	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.

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