



# MGBR10S45

**DIODE**

## MOS GATED BARRIER RECTIFIER

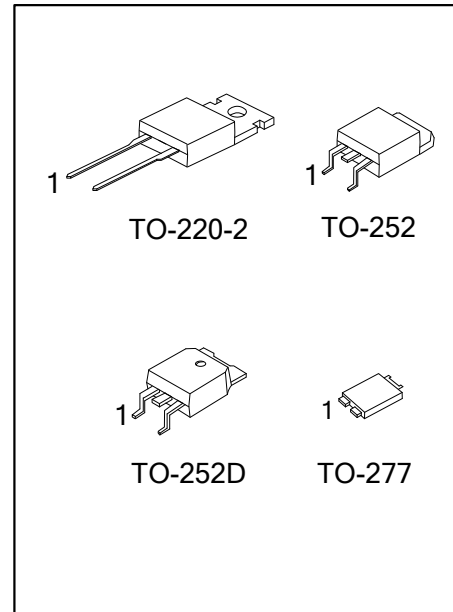
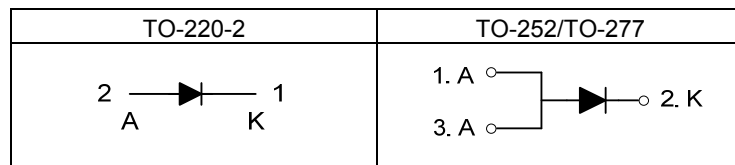
### DESCRIPTION

The UTC **MGBR10S45** 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

- \* Super low forward voltage drop
- \* High switching speed

### SYMBOL



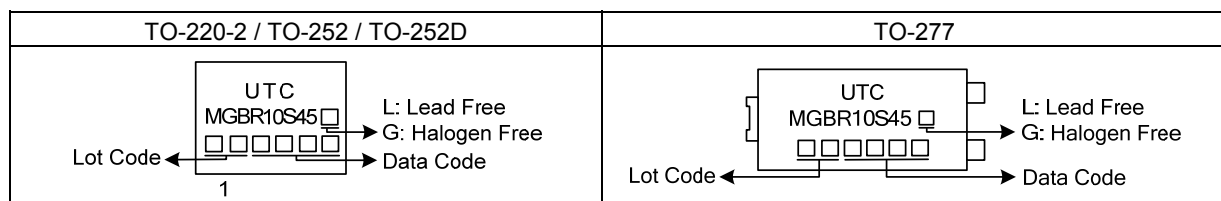
### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10S45L-TA2-T	MGBR10S45G-TA2-T	TO-220-2	K	A	-	Tube
MGBR10S45L-TN3-R	MGBR10S45G-TN3-R	TO-252	A	K	A	Tape Reel
MGBR10S45L-T27-R	MGBR10S45G-T27-R	TO-277	A	K	A	Tape Reel

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

<p>MGBR10S45L-TA2-T</p>	<p>(1) T: Tube, R: Tape Reel                  (2) TA2: TO-220-2, TN3: TO-252, TND: TO-252D                  T27: TO-277                  (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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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>	45	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	45	V
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	45	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	32	V
Average Rectified Output Current	I <sub>O</sub>	10	A
T <sub>C</sub> =140°C			
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I <sub>FSM</sub>	150	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 CHARACTERISTICS

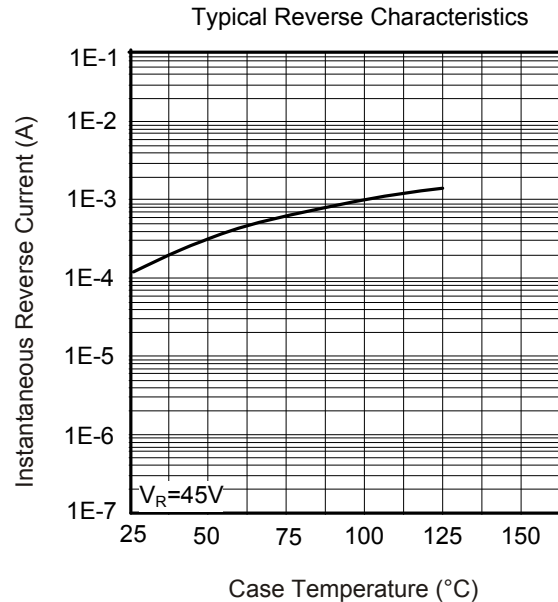
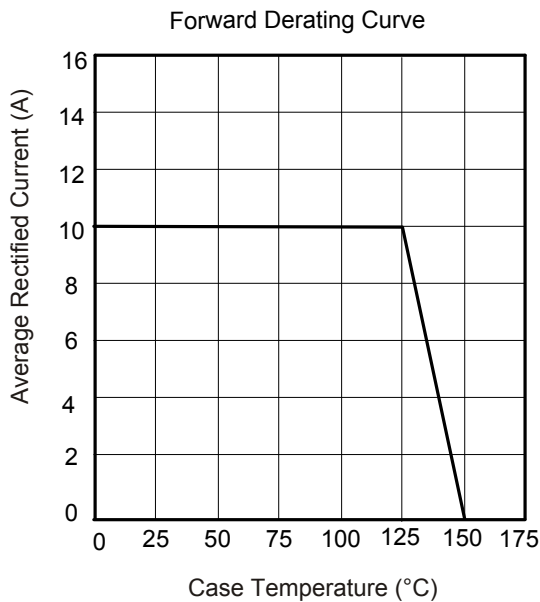
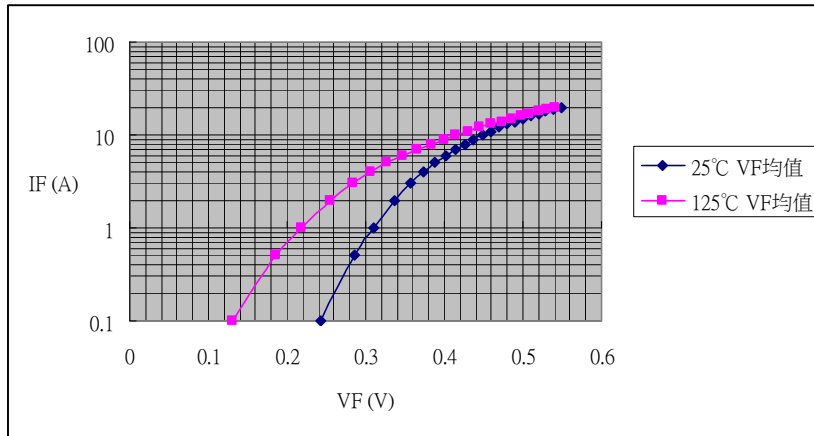
PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	60	°C/W
		110	
		73 (Note 3)	
Junction to Case	θ <sub>JC</sub>	2	°C/W
		2.5	
		13 (Note 3)	

■ 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> =0.45mA	45			V
Forward Voltage Drop	V <sub>FM</sub>	I <sub>F</sub> =10A, T <sub>J</sub> =25°C			0.48	V
		I <sub>F</sub> =10A, T <sub>J</sub> =125°C			0.43	V
Leakage Current (Note 1)	I <sub>RM</sub>	V <sub>R</sub> =45V, T <sub>J</sub> =25°C		50	500	µA
		V <sub>R</sub> =45V, T <sub>J</sub> =125°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 100cm<sup>2</sup> copper pad area.

## ■ TYPICAL CHARACTERISTICS



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