



**MGBR10S45C**

Preliminary

**DIODE**

**DUAL MOS GATED BARRIER RECTIFIER**

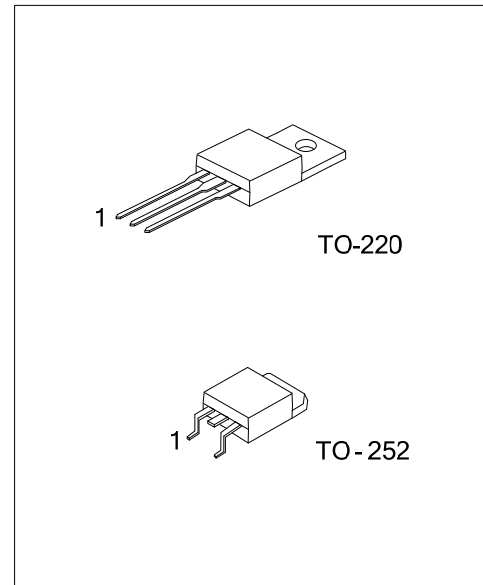
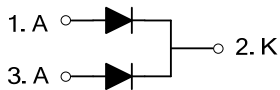
■ DESCRIPTION

The UTC **MGBR10S45C** is a dual mos gated barrier rectifiers, 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	
MGBR10S45CL-TA3-T	MGBR10S45CG-TA3-T	TO-220	A	K	A	Tube
MGBR10S45CL-TN3-T	MGBR10S45CG-TN3-T	TO-252	A	K	A	Tube
MGBR10S45CL-TN3-R	MGBR10S45CG-TN3-R	TO-252	A	K	A	Tape Reel

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

<p>MGBR10S45CL-TA3-T</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA3: TO-220, TN3: TO-252</p> <p>(3) L: Lead Free, G: Halogen Free</p>
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■ 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 (T <sub>C</sub> =140°C)	Per Leg	I <sub>O</sub>	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I <sub>FSM</sub>	100	A
Repetitive Peak Avalanche Power (1μs, 25°C)		P <sub>ARM</sub>	5000	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

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220	θ <sub>JA</sub>	62.5	°C/W
	TO-252		110	
Junction to Case	TO-220	θ <sub>JC</sub>	2	°C/W
	TO-252		2.5	

■ ELECTRICAL CHARACTERISTICS (Per Leg) (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> =5A, T <sub>J</sub> =25°C			0.45	V
		I <sub>F</sub> =5A, T <sub>J</sub> =125°C			0.40	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.

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