



**MGBR20V45C**

Preliminary

**DIODE**

**DUAL MOS GATED BARRIER RECTIFIERS**

■ DESCRIPTION

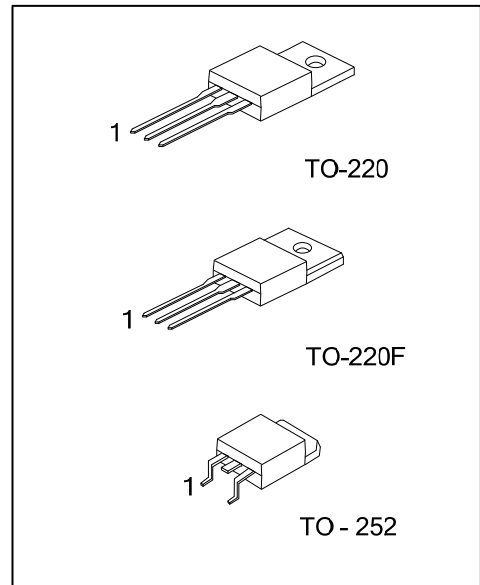
The UTC **MGBR20V45C** is a dual mos gated barrier rectifiers, it uses UTC's advanced technology to provide customers with high current capability, low forward voltage and high switching speed, etc.

■ FEATURES

- \* Very low forward voltage
- \* High switching speed
- \* High current capability

■ SYMBOL

■ ORDERING INFORMATION



Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20V45CL-TA3-T	MGBR20V45CG-TA3-T	TO-220	A	K	A	Tube
MGBR20V45CL-TF3-T	MGBR20V45CG-TF3-T	TO-220F	A	K	A	Tube
MGBR20V45CL-TN3-T	MGBR20V45CG-TN3-T	TO-252	A	K	A	Tube
MGBR20V45CL-TN3-T	MGBR20V45CG-TN3-T	TO-252	A	K	A	Tape Reel

<p>MGBR20V45CL-TA3-T</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Lead Free</p>	<p>(1) T: Tube, R: Tape Reel</p> <p>(2) TA3: TO-220, TF3: TO-220F, TN3: TO-252</p> <p>(3) 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>	45	V
Working Peak Reverse Voltage	V <sub>RWM</sub>	45	V
Peak Repetitive Reverse Voltage	V <sub>RRM</sub>	45	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave) – 50% duty cycle	Per Leg	10	A
	Total	20	A
Peak Forward Surge Current - 1/2 60Hz	I <sub>FSM</sub>	150	A
Peak Repetitive Reverse Surge Current (2μS-1KHz)	I <sub>RRM</sub>	2	A
Rate of Voltage Change ( at Rated V <sub>R</sub> )	dv/dt	10000	V/μS
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

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ <sub>JA</sub>	TO-220/TO-220F	62.5
		TO-252	110
Junction to Case	θ <sub>JC</sub>	TO-220	2
		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
Instantaneous Forward Voltage	V <sub>FM</sub>	I <sub>F</sub> =10A, T <sub>J</sub> =25°C			0.54	V
		I <sub>F</sub> =10A, T <sub>J</sub> =125°C			0.49	V
Instantaneous Reverse Current (Note 1)	I <sub>RM</sub>	V <sub>R</sub> =45V, T <sub>J</sub> =25°C			500	μA
		V <sub>R</sub> =45V, T <sub>J</sub> =125°C			100	mA

Notes: 1. Short duration pulse test used to minimize self-heating effect.

2. Thermal resistance junction to case mounted on heatsink.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.