



# MGBR20V45C

**DIODE**

## DUAL MOS GATED BARRIER RECTIFIERS

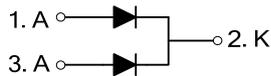
### DESCRIPTION

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

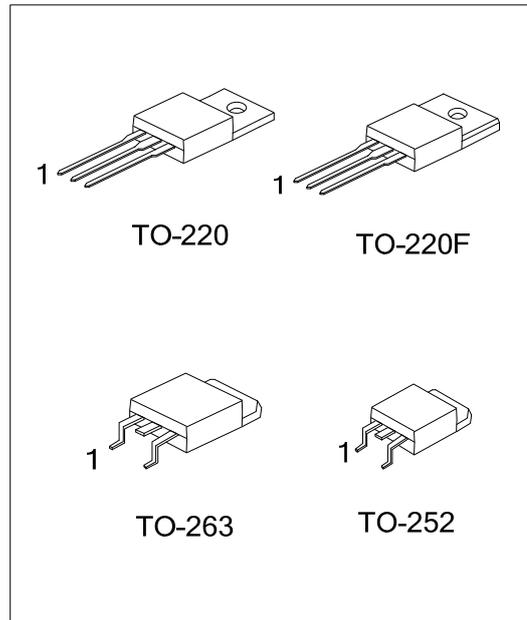
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20V45CL-TA3-T	MGBR20V45CG-TA3-T	TO-220	A	K	A	Tube
MGBR20V45CL-TF3-T	MGBR20V45CG-TF3-T	TO-220F	A	K	A	Tube
MGBR20V45CL-TN3-R	MGBR20V45CG-TN3-R	TO-252	A	K	A	Tape Reel
MGBR20V45CL-TQ2-T	MGBR20V45CG-TQ2-T	TO-263	A	K	A	Tube
MGBR20V45CL-TQ2-R	MGBR20V45CG-TQ2-R	TO-263	A	K	A	Tape Reel

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

<p>MGBR20V45CL-TA3-T</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) T: Tube, R: Tape Reel (2) TA3: TO-220, TF3: TO-220F, TN3: TO-252 TQ2: TO-263 (3) L: Lead Free, G: Halogen Free and Lead Free</p>
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### MARKING

TO-220 / TO-220F	TO-252
<p>UTC MGBR20V45C Lot Code ← Data Code 1</p> <p>L: Lead Free G: Halogen Free</p>	<p>UTC MGBR 20V45C Lot Code ← Data Code 1</p> <p>L: Lead Free G: Halogen Free</p>



■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$  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		$V_{RM}$	45	V
Working Peak Reverse Voltage		$V_{RWM}$	45	V
Peak Repetitive Reverse Voltage		$V_{RRM}$	45	V
Average Rectified Forward Current (Rated VR-20KHz Square Wave) – 50% duty cycle	Per Leg	$I_O$	10	A
	Total		20	A
Peak Forward Surge Current - 1/2 60Hz		$I_{FSM}$	150	A
Operating Junction Temperature		$T_J$	-65 ~ +150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-65 ~ +150	$^\circ\text{C}$

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 (PER LEG)

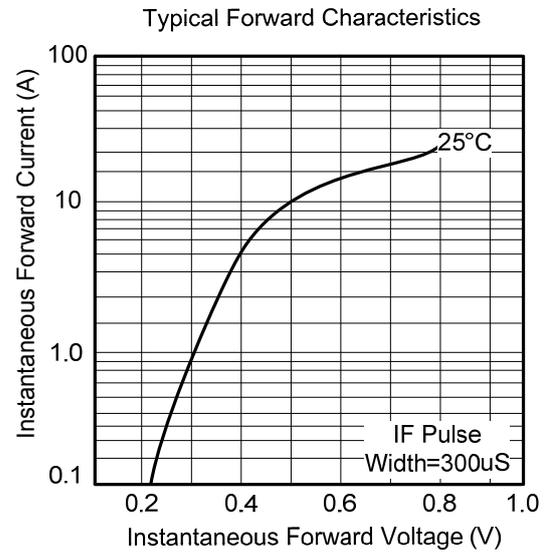
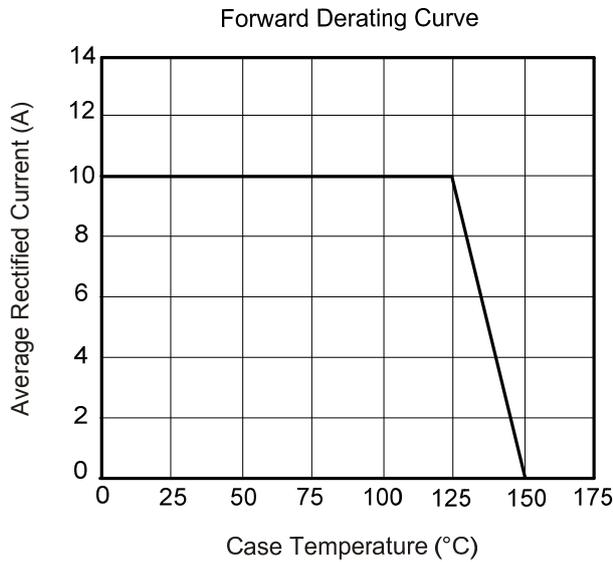
PARAMETER		SYMBOL	RATINGS	UNIT
Typical Thermal Resistance	TO-220	$\theta_{JC}$	2	$^\circ\text{C/W}$
	TO-220F		4	$^\circ\text{C/W}$
	TO-252		6	$^\circ\text{C/W}$
	TO-263		3	$^\circ\text{C/W}$

■ ELECTRICAL CHARACTERISTICS (PER LEG) ( $T_A=25^\circ\text{C}$  unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Instantaneous Forward Voltage	$V_{FM}$	$I_F=10\text{A}, T_J=25^\circ\text{C}$			0.59	V
		$I_F=10\text{A}, T_J=125^\circ\text{C}$			0.52	V
Leakage Current	$I_{RM}$	$V_R=45\text{V}, T_J=25^\circ\text{C}$			500	$\mu\text{A}$
		$V_R=45\text{V}, T_J=125^\circ\text{C}$			100	mA

Note: Pulse Test: Pulse width  $\leq 300\mu\text{s}$ , Duty cycle  $\leq 2\%$ .

## TYPICAL CHARACTERISTICS



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