



MGBR10V45C

Preliminary

DIODE

DUAL MOS GATED BARRIER RECTIFIER

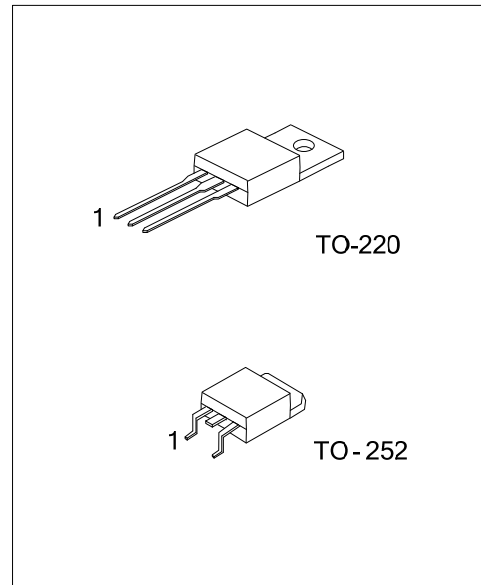
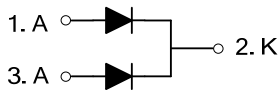
DESCRIPTION

The UTC **MGBR10V45C** 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

- * Very low forward voltage drop
- * High switching speed

SYMBOL



ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR10V45CL-TA3-T	MGBR10V45CG-TA3-T	TO-220	A	K	A	Tube
MGBR10V45CL-TN3-T	MGBR10V45CG-TN3-T	TO-252	A	K	A	Tube
MGBR10V45CL-TN3-R	MGBR10V45CG-TN3-R	TO-252	A	K	A	Tape Reel

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

<p>MGBR10V45CL-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 ($T_A=25^\circ\text{C}$, 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
RMS Reverse Voltage		$V_{R(RMS)}$	32	V
Average Rectified Output Current ($T_C=140^\circ\text{C}$)	Per Leg	I_o	5	A
	Total		10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	90	A
Repetitive Peak Avalanche Power (1 μs , 25°C)		P_{ARM}	5000	W
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

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220	θ_{JA}	62.5	$^\circ\text{C/W}$
	TO-252		110	
Junction to Case	TO-220	θ_{JC}	2	$^\circ\text{C/W}$
	TO-252		2.5	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.45\text{mA}$	45			V
Forward Voltage Drop	V_{FM}	$I_F=5\text{A}$, $T_J=25^\circ\text{C}$			0.50	V
		$I_F=5\text{A}$, $T_J=125^\circ\text{C}$			0.45	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}$, $T_J=25^\circ\text{C}$		50	500	μA
		$V_R=45\text{V}$, $T_J=125^\circ\text{C}$		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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