



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

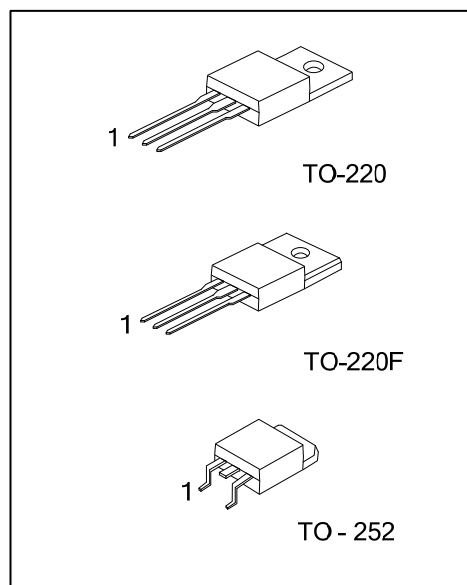
- * Very low forward voltage
- * High switching speed
- * High current capability

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

MGBR20V45CL-TA3-T	(1)Packing Type	(1) T: Tube, R: Tape Reel
	(2)Package Type	(2) TA3: TO-220, TF3: TO-220F, TN3: TO-252
	(3)Lead Free	(3) L: Lead Free, G: Halogen Free



■ 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
Peak Repetitive Reverse Surge Current (2 μ S-1KHz)		I_{RRM}	2	A
Rate of Voltage Change (at Rated V_R)		dv/dt	10000	V/ μ S
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 DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220/TO-220F	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
Instantaneous Forward Voltage	V_{FM}	$I_F=10\text{A}, T_J=25^{\circ}\text{C}$			0.54	V
		$I_F=10\text{A}, T_J=125^{\circ}\text{C}$			0.49	V
Instantaneous Reverse Current (Note 1)	I_{RM}	$V_R=45\text{V}, T_J=25^{\circ}\text{C}$			500	μA
		$V_R=45\text{V}, T_J=125^{\circ}\text{C}$			100	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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