



MGBR20S45C

DIODE

DUAL MOS GATED BARRIER RECTIFIERS

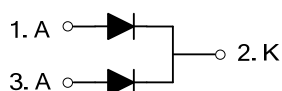
DESCRIPTION

The UTC **MGBR20S45C** 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

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

SYMBOL



ORDERING INFORMATION

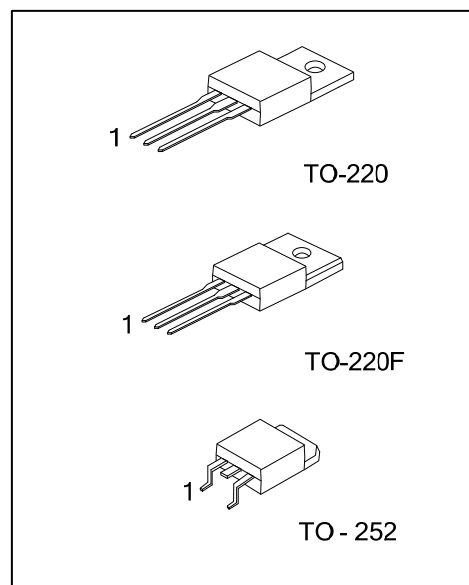
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR20S45CL-TA3-T	MGBR20S45CG-TA3-T	TO-220	A	K	A	Tube
MGBR20S45CL-TF3-T	MGBR20S45CG-TF3-T	TO-220F	A	K	A	Tube
MGBR20S45CL-TN3-R	MGBR20S45CG-TN3-R	TO-252	A	K	A	Tape Reel

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

<p>MGBR20S45CL-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</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 and Lead Free</p>
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MARKING

TO-220 / TO-220F	TO-252
<p>UTC</p> <p>MGBR20S45C</p> <p>Lot Code</p> <p>1</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> <p>Data Code</p>	<p>UTC MGBR</p> <p>20S45C</p> <p>Lot Code</p> <p>1</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> <p>Data Code</p>



■ ABSOLUTE MAXIMUM RATINGS (T_A=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 _{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	I _O	10	A
Per Leg		20	A
Peak Forward Surge Current - 1/2 60Hz	I _{FSM}	180	A
Peak Repetitive Reverse Surge Current (2μS-1KHz)	I _{RRM}	2	A
Rate of Voltage Change (at Rated V _R)	dv/dt	10000	V/μS
Operating Junction Temperature	T _J	-65~+150	°C
Storage Temperature	T _{STG}	-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 (PER LEG)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ _{JA}	62.5	°C/W
		110	
Junction to Case	θ _{JC}	2	°C/W
		3.31	
		2.5	

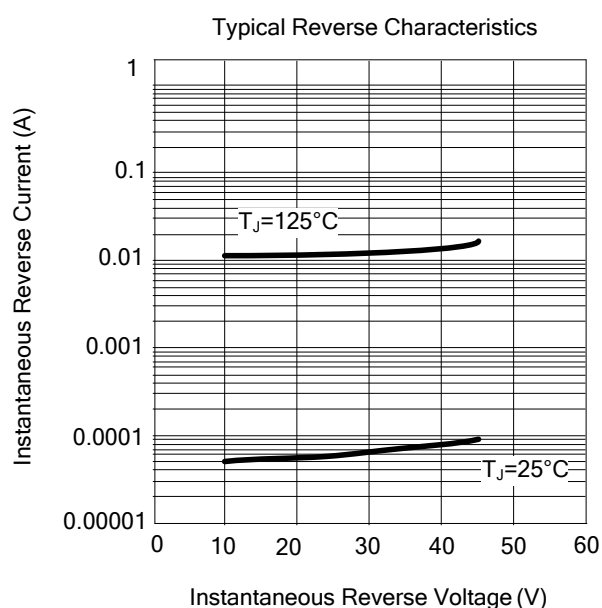
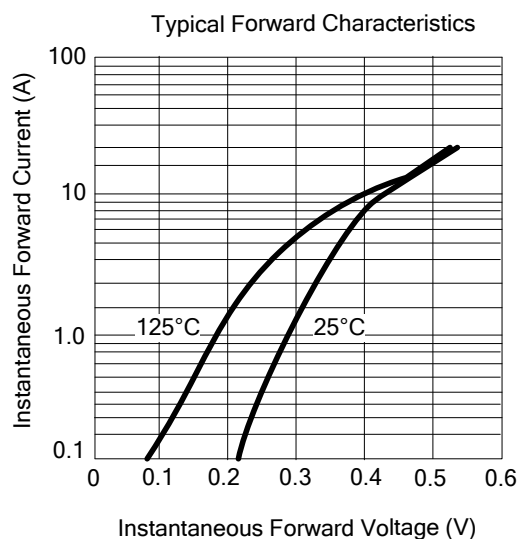
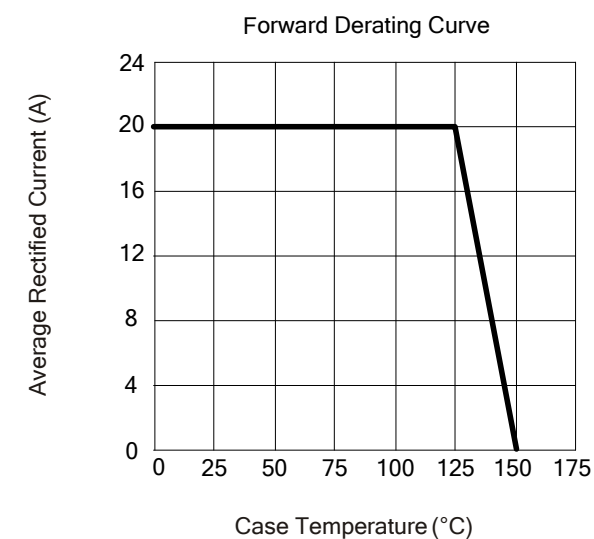
■ ELECTRICAL CHARACTERISTICS-(PER LEG) (T_A=25°C unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	V _{(BR)R}	I _R =0.45mA	45			V
Instantaneous Forward Voltage	V _{FM}	I _F =10A, T _J =25°C			0.48	V
		I _F =10A, T _J =125°C			0.43	V
Instantaneous Reverse Current (Note 1)	I _{RM}	V _R =45V, T _J =25°C			500	μA
		V _R =45V, T _J =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.

■ TYPICAL CHARACTERISTICS



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