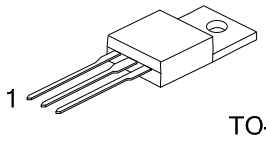
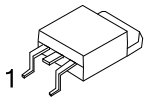
MGBR20S45C

Preliminary **DIODE**

DUAL MOS GATED BARRIER RECTIFIERS



TO-220



TO-252

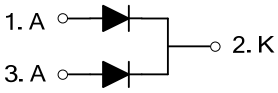
■ DESCRIPTION

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-TN3-T	MGBR20S45CG-TN3-T	TO-252	A	K	A	Tube
MGBR20S45CL-TN3-T	MGBR20S45CG-TN3-T	TO-252	A	K	A	Tape Reel

MGBR20S45CL-TA3-T

(1)Packing Type — (1) T: Tube, R: Tape Reel

(2)Package Type — (2) TA3: TO-220, TN3: TO-252

(3)Lead Free — (3) L: Lead Free, G: Halogen Free

■ 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	Per Leg	I_O	10	A
	Total		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 DATA

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	TO-220	θ_{JA}	62.5	°C/W
	TO-252		110	
Junction to Case	TO-220	θ_{JC}	2	°C/W
	TO-252		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.