



MGBR40S45C

Preliminary

DIODE

DUAL MOS GATED BARRIER RECTIFIER

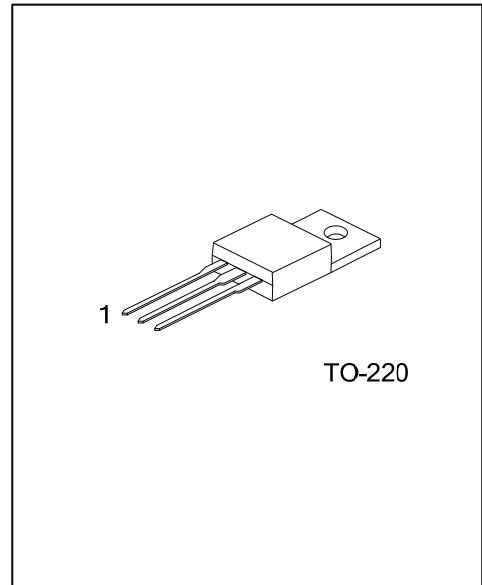
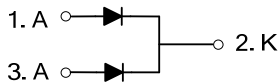
DESCRIPTION

The UTC MGBR40S45C 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

- \* Super low forward voltage drop
\* High switching speed

SYMBOL



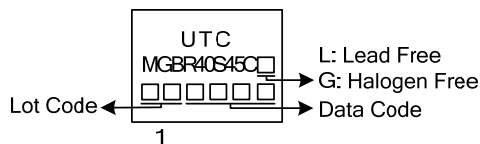
ORDERING INFORMATION

Table with columns: Ordering Number (Lead Free, Halogen Free), Package (TO-220), Pin Assignment (1: A, 2: K, 3: A), Packing (Tube)

Note: Pin Assignment: A: Anode K: Cathode

Table explaining part number MGBR40S45CL-TA3-T: (1) Packing Type, (2) Package Type, (3) Green Package.

MARKING



■ ABSOLUTE MAXIMUM RATINGS (PER LEG) ( $T_A=25^\circ\text{C}$  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 Output Current Per Device	Per Leg	20	A
	Total	40	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	350	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
Junction to Case	$\theta_{JC}$	2	$^\circ\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.50\text{mA}$	45			V
Forward Voltage Drop	$V_{FM}$	$I_F=20\text{A}, T_J=25^\circ\text{C}$			0.50	V
		$I_F=20\text{A}, T_J=125^\circ\text{C}$			0.45	V
Leakage Current (Note 1)	$I_{RM}$	$V_R=45\text{V}, T_J=25^\circ\text{C}$			500	$\mu\text{A}$
		$V_R=45\text{V}, T_J=125^\circ\text{C}$			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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