



MGBR30U50C

Preliminary

DIODE

DUAL MOS GATED BARRIER RECTIFIERS

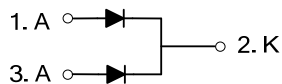
DESCRIPTION

The UTC **MGBR30U50C** 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

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

SYMBOL



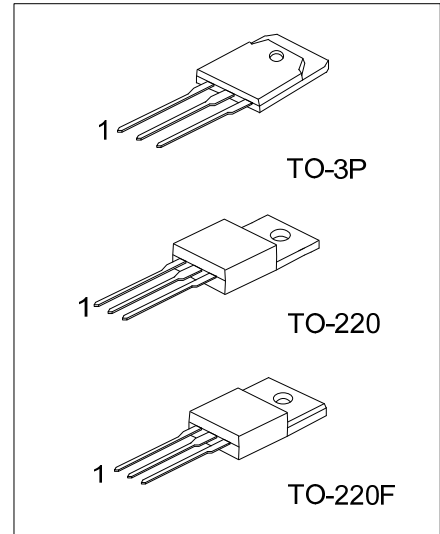
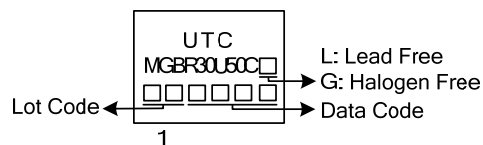
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR30U50CL-TA3-T	MGBR30U50CG-TA3-T	TO-220	A	K	A	Tube
MGBR30U50CL-TF3-T	MGBR30U50CG-TF3-T	TO-220F	A	K	A	Tube
MGBR30U50CL-T3P-T	MGBR30U50CG-T3P-T	TO-3P	A	K	A	Tube

Note: Pin Assignment: A: Anode K: Cathode

<p>MGBR30U50CL-TA3-T</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Green Package</p>	<p>(1) T: Tube</p> <p>(2) TA3: TO-220, TF3: TO-220F, T3P: TO-3P</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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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}	50	V
Working Peak Reverse Voltage		V_{RWM}	50	V
Peak Repetitive Reverse Voltage		V_{RRM}	50	V
Average Rectified Output Current Per Device	Per Leg	I_O	15	A
	Total		30	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	280	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 Ambient	TO-220/TO-220F	θ_{JA}	62.5	$^{\circ}\text{C/W}$
	TO-3P		21	
Junction to Case	TO-220	θ_{JC}	2	$^{\circ}\text{C/W}$
	TO-220F		3.31	
	TO-3P		1.55	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.50\text{mA}$	50			V
Forward Voltage Drop	V_{FM}	$I_F=15\text{A}, T_J=25^{\circ}\text{C}$			0.46	V
		$I_F=15\text{A}, T_J=125^{\circ}\text{C}$			0.41	V
Leakage Current	I_{RM}	$V_R=50\text{V}, T_J=25^{\circ}\text{C}$			500	μA
		$V_R=50\text{V}, T_J=125^{\circ}\text{C}$			100	mA

Note: Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

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