



MGBR5U40

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

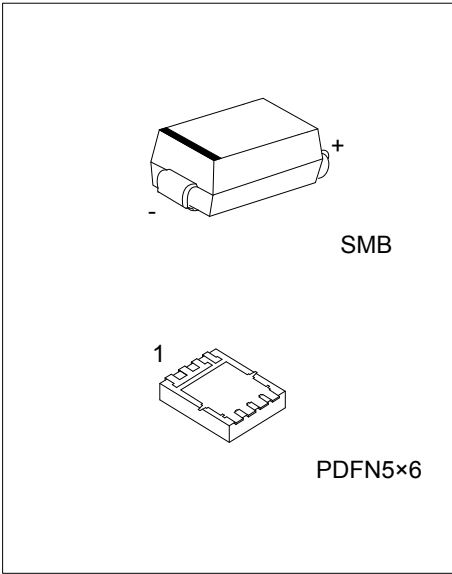
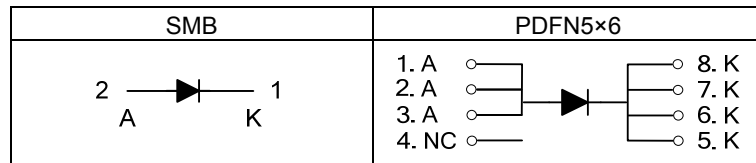
■ DESCRIPTION

The UTC **MGBR5U40** is a surface mount mos gated barrier rectifier, 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



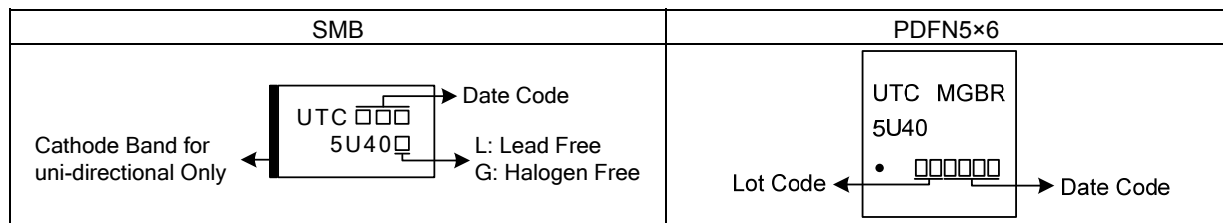
■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment								Packing	
Lead Free	Halogen Free		1	2	3	4	5	6	7	8		
MGBR5U40L-SMB-R	MGBR5U40G-SMB-R	SMB	K	A	-	-	-	-	-	-	-	Tape Reel
MGBR5U40L-P5060-R	MGBR5U40G-P5060-R	PDFN5×6	A	A	A	NC	K	K	K	K	K	Tape Reel

Note: Pin Assignment: A: Anode K: Common Cathode NC: No Comment

<p>MGBR5U40G-SMB-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) SMB: SMB, P5060: PDFN5×6 (3) G: Halogen Free and Lead Free, L: Lead Free
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■ MARKING



■ 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}	40	V
Working Peak Reverse Voltage	V_{RWM}	40	V
Peak Repetitive Reverse Voltage	V_{RRM}	40	V
Average Rectified Output Current	I_O	5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	120	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
Typical Thermal Resistance	SMB	20	$^\circ\text{C}/\text{W}$
	PDFN5x6	72 (Note)	$^\circ\text{C}/\text{W}$

Note: FR-4 PCB, 2 oz Copper. Minimum recommended pad layout.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.5\text{mA}$	40			V
Instantaneous Forward Voltage	V_{FM}	$I_F=5\text{A}, T_J=25^\circ\text{C}$			0.43	V
		$I_F=5\text{A}, T_J=125^\circ\text{C}$			0.39	V
Leakage Current	I_{RM}	$V_R=40\text{V}, T_J=25^\circ\text{C}$			500	μA
		$V_R=40\text{V}, T_J=125^\circ\text{C}$			100	mA

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

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