



MGBR5S40

Preliminary

DIODE

MOS GATED BARRIER RECTIFIER

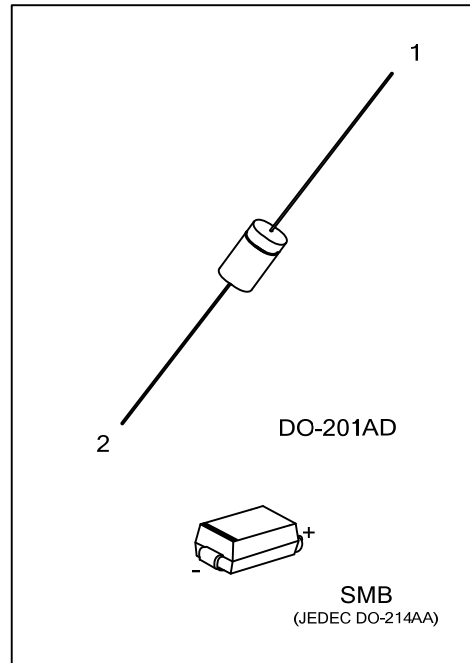
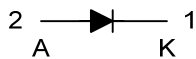
■ DESCRIPTION

The UTC **MGBR5S40** 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

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

■ SYMBOL



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
MGBR5S40L-SMB-R	MGBR5S40G-SMB-R	SMB	K	A	Tape Reel
MGBR5S40L-Z21D-R	MGBR5S40G-Z21D-R	DO-201AD	K	A	Tape Reel

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

<p>MGBR5S40L-SMB-R</p>	<p>(1) R: Tape Reel</p> <p>(2) SMB: SMB, Z21D: DO-201AD</p> <p>(3) L: Lead Free, G: Halogen Free and Lead Free</p>
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■ MARKING

PACKAGE	MARKING
SMB	
DO-201AD	

■ 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}	150	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 DATA

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	SMB	70	$^{\circ}\text{C}/\text{W}$
	DO-201AD	38	$^{\circ}\text{C}/\text{W}$
Junction to Case	SMB	35	$^{\circ}\text{C}/\text{W}$
	DO-201AD	15	$^{\circ}\text{C}/\text{W}$

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, 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}	$I_F=5\text{A}, T_J=25^{\circ}\text{C}$		0.46	0.52	V
		$I_F=5\text{A}, T_J=125^{\circ}\text{C}$		0.42	0.48	V
Leakage Current	I_{RM}	$V_R=40\text{V}, T_J=25^{\circ}\text{C}$			500	μA
		$V_R=40\text{V}, T_J=125^{\circ}\text{C}$			50	mA

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

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