

**MGBR5S45**

Preliminary

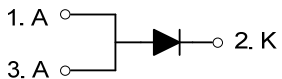
DIODE**MOS GATED BARRIER
RECTIFIER****DESCRIPTION**

The UTC **MGBR5S45** 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

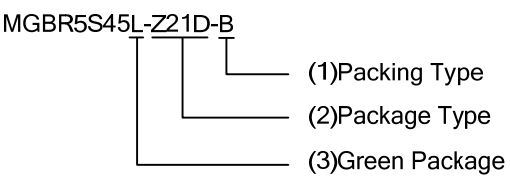
SYMBOL

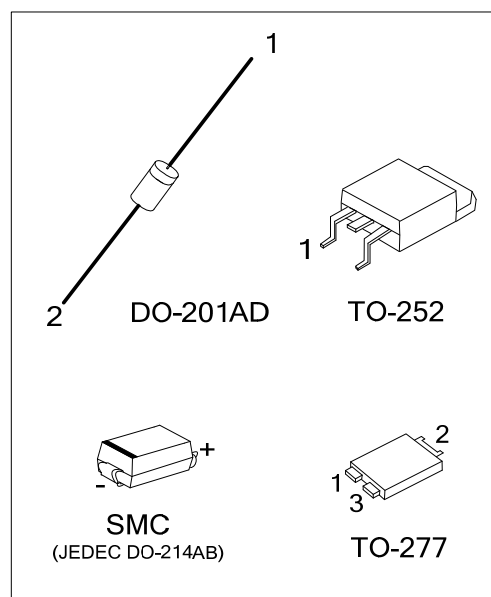
TO-252 / TO-277	SMC
	

ORDERING INFORMATION

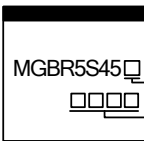
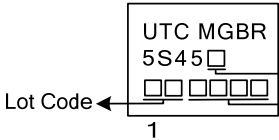
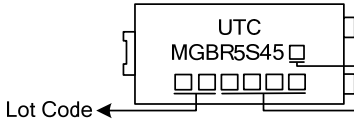
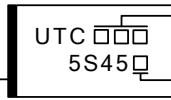
Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
MGBR5S45L-Z21D-B	MGBR5S45G-Z21D-B	DO-201AD	K	A	-	Tape Box
MGBR5S45L-TN3-R	MGBR5S45G-TN3-R	TO-252	A	K	A	Tape Reel
MGBR5S45L-T27-R	MGBR5S45G-T27-R	TO-277	A	K	A	Tape Reel
MGBR5S45L-SMC-R	MGBR5S45G-SMC-R	SMC	K	A	-	Tape Reel

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

	(1) B: Tape Box, R: Tape Reel (2) Z21D: DO-201AD, T27: TO-227, TN3: TO-252 SMC: SMC (3) L: Lead Free, G: Halogen Free and Lead Free
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■ MARKING

PACKAGE	MARKING
DO-201AD	 Cathode Band for uni-directional Only L: Lead Free G: Halogen Free Date Code
TO-252	 Lot Code UTC MGBR 5S45 L: Lead Free G: Halogen Free Data Code
TO-277	 Lot Code UTC MGBR5S45 L: Lead Free G: Halogen Free Data Code
SMC	 Cathode Band for uni-directional Only Date Code L: Lead Free G: Halogen Free

■ **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}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Peak Repetitive Reverse Voltage	V_{RRM}	45	V
Average Rectified Output Current $T_C=140^{\circ}\text{C}$	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	$-65 \sim +150$	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	$-65 \sim +150$	$^{\circ}\text{C}$

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**

PARAMETER		SYMBOL	RATINGS	UNIT
Junction to Ambient	DO-201AD/SMC	θ_{JA}	75	$^{\circ}\text{C/W}$
	TO-252		110	
	TO-277		73	
Junction to Case	DO-201AD	θ_{JC}	15	$^{\circ}\text{C/W}$
	TO-277		13	
	TO-252		2.5	
	SMC		35	

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Instantaneous Forward Voltage	V_{FM}	$I_F=5\text{A}$, $T_J=25^{\circ}\text{C}$			0.48	V
		$I_F=5\text{A}$, $T_J=125^{\circ}\text{C}$			0.44	V
Leakage Current	I_{RM}	$V_R=45\text{V}$, $T_J=25^{\circ}\text{C}$			500	μA
		$V_R=45\text{V}$, $T_J=125^{\circ}\text{C}$			100	mA

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

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