

**MGBR5V45**

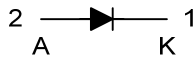
Preliminary

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

The UTC **MGBR5V45** 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

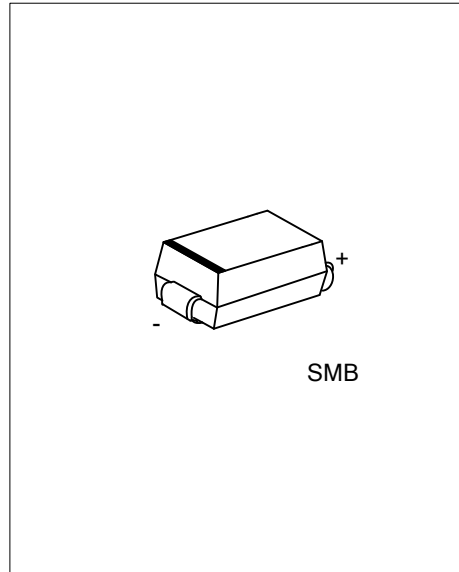
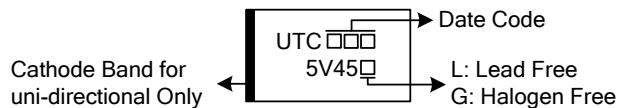
- * Very low forward voltage drop
- * High switching speed

SYMBOL**ORDERING INFORMATION**

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
MGBR5V45L-SMB-R	MGBR5V45G-SMB-R	SMB	K	A	Tape Reel

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

MGBR5V45L-SMB-R	(1)Packing Type	(1) R: Tape Reel
	(2)Package Type	(2) SMB: SMB
	(3)Green Package	(3) L: Lead Free, G: Halogen Free and Lead Free

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}	45	V
Working Peak Reverse Voltage	V_{RWM}	45	V
Repetitive Peak Reverse Voltage	V_{RRM}	45	V
RMS Reverse Voltage	$V_{R(RMS)}$	32	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}	90	A
Repetitive Peak Avalanche Power (1 μs , 25°C)	P_{ARM}	5000	W
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

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	70	$^{\circ}\text{C/W}$

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	$I_R=0.5\text{mA}$	45			V
Instantaneous Forward Voltage	V_{FM}	$I_F=5\text{A}$, $T_J=25^{\circ}\text{C}$			0.61	V
		$I_F=5\text{A}$, $T_J=125^{\circ}\text{C}$			0.58	V
Leakage Current (Note 1)	I_{RM}	$V_R=45\text{V}$, $T_J=25^{\circ}\text{C}$		50	500	μA
		$V_R=45\text{V}$, $T_J=125^{\circ}\text{C}$		12	15	mA
Total Capacitance	C_T	$V_R=5\text{V}$, $f=1\text{MHz}$, $T_J=25^{\circ}\text{C}$		400		pF

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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