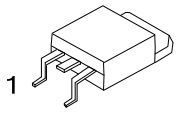
MGBR10U300M1

DIODE

MOS GATED BARRIER RECTIFIER



TO-252

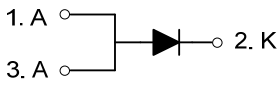
■ DESCRIPTION

The UTC **MGBR10U300M1** is a surface mount mos gatedbarrier rectifier,it uses UTC's advanced technology to provide customers withlow forward voltage drop and high switching speed, etc.

■ FEATURES

* MSL1 Robust Package Design
* Ultra low forward voltage drop
* High switching speed
* Green & Pb free

■ SYMBOL



■ ORDERING INFORMATION

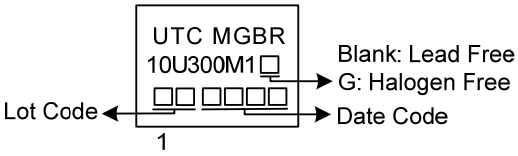
Ordering Number		Package	Pin Assignment			Packing
Pb Free	Halogen Free		1	2	3	
MGBR10U300M1-TN3-R	MGBR10U300M1G-TN3-R	TO-252	A	K	A	Tape Reel

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

MGBR10U300M1G-TN3-R

(1)Packing Type	(1) R: Tape Reel
(2)Package Type	(2) TN3: TO-252
(3)Green Package	(3) G: Halogen Free and Lead Free, Blank: Pb free

■ MARKING



■ ABSOLUTE MAXIMUM RATINGS (T_A=25°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}	300	V
Working Peak Reverse Voltage		V_{RWM}	300	V
Peak Repetitive Reverse Voltage		V_{RRM}	300	V
Average Rectified Output Current	T_C=140°C	I_O	10	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load		I_{FSM}	160	A
Power Dissipation (T_C=25°C)		P_D	20	W
Operating Junction Temperature		T_J	-65 ~ +150	°C
Storage Temperature		T_{STG}	-65 ~ +150	°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 (Note 3)

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	110	°C/W
Junction to Case	θ_{JC}	6	°C/W

■ ELECTRICAL CHARACTERISTICS (T_A=25°C, unless otherwise specified.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage (Note 1)	$V_{(BR)R}$	I_R=0.5mA	300			V
Forward Voltage Drop	V_{FM}	I_F=10A, T_J=25°C			0.85	V
		I_F=10A, T_J=125°C			0.75	V
Leakage Current (Note 1)	I_{RM}	V_R=300V, T_J=25°C			100	μA
		V_R=300V, T_J=125°C			10	mA

Notes: 1. Short duration pulse test used to minimize self-heating effect.
2. Thermal resistance junction to case mounted on heatsink.
3. Mounted on an FR4 PCB, single-sided copper, with 100 cm^2 copper pad area.

■ TYPICAL CHARACTERISTICS