



## TGBR0520

Preliminary

DIODE

### 20V, 0.5A LOW VF MEGA SCHOTTKY BARRIER RECTIFIER

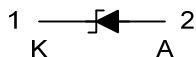
#### DESCRIPTION

The **UTC TGBR0520** is a planar Maximum Efficiency General Application (MEGA) Schottky barrier rectifier with an integrated guard ring for stress protection, encapsulated in a leadless ultra small Surface-Mounted Device (SMD) plastic package with visible and solderable side pads.

#### FEATURES

- \* Average forward current:  $I_o \leq 0.5 \text{ A}$
- \* Reverse voltage:  $V_R \leq 20 \text{ V}$
- \* Low forward voltage  $V_F \leq 410 \text{ mV}$
- \* Low reverse current

#### SYMBOL



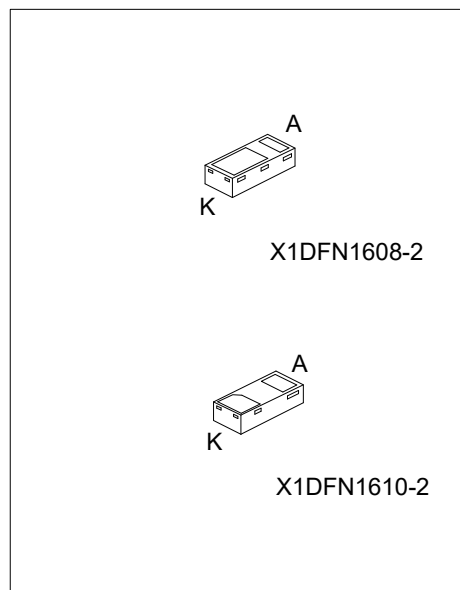
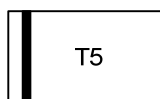
#### ORDERING INFORMATION

Ordering Number		Package	Pin Assignment		Packing
Lead Free	Halogen Free		1	2	
TGBR0520L-KAG-R	TGBR0520G-KAG-R	X1DFN1608-2	K	A	Tape Reel
TGBR0520L-KAW-R	TGBR0520G-KAW-R	X1DFN1610-2	K	A	Tape Reel

Note: Pin Assignment: K: Cathode A: Anode

<p>TGBR0520G-KAG-R</p> <p>(1)Packing Type</p> <p>(2)Package Type</p> <p>(3)Green Package</p>	<p>(1) R: Tape Reel</p> <p>(2) KAG: X1DFN1608-2, KAW: X1DFN1610-2</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p>
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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
Reverse Voltage ( $T_J=25^{\circ}\text{C}$ )	$V_R$	20	V
Forward Current	$I_O$	0.5	A
Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	4.5	A
Operating Junction Temperature	$T_J$	$-55 \sim +125$	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	$-55 \sim +125$	$^{\circ}\text{C}$

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	$\theta_{JA}$	330	$^{\circ}\text{C/W}$

Note: Device mounted on an FR4 PCB, single-sided copper, tin-plated and standard footprint.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Reverse Breakdown Voltage	$V_{(BR)R}$	$I_R=0.50\text{mA}$	20			V
Forward Voltage	$V_F$	$I_F=100\text{mA}$ ,			300	mV
		$I_F=500\text{mA}$ ,			410	mV
Leakage Current	$I_R$	$V_R=10\text{V}$ , $T_J=25^{\circ}\text{C}$			130	$\mu\text{A}$
		$V_R=20\text{V}$ , $T_J=25^{\circ}\text{C}$			300	$\mu\text{A}$
Reverse Recovery Time	$t_{rr}$	$I_R=0.5\text{A}$ , $I_F=0.5\text{A}$ , $I_{R(\text{meas})}=0.1\text{A}$ , $T_J=25^{\circ}\text{C}$		4		ns

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

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