



UZ0103

Preliminary

TRIAC

1A TRIAC

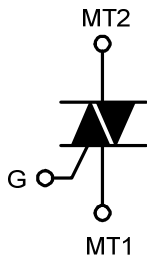
DESCRIPTION

The UTC **UZ0103** is a 1A triac, it is suitable for general purpose AC switching applications, fan speed controllers and home appliances.

FEATURES

* $I_{GT} \leq 3\text{mA}$ (I-II-III), $I_{GT} \leq 5\text{mA}$ (IV)
 $I_{TSM} \leq 8\text{A}$ ($t=20\text{ms}$), $I_{TSM} \leq 8.5\text{A}$ ($t=16.7\text{ms}$)
 $I_{T(RMS)} \leq 1\text{A}$

SYMBOL



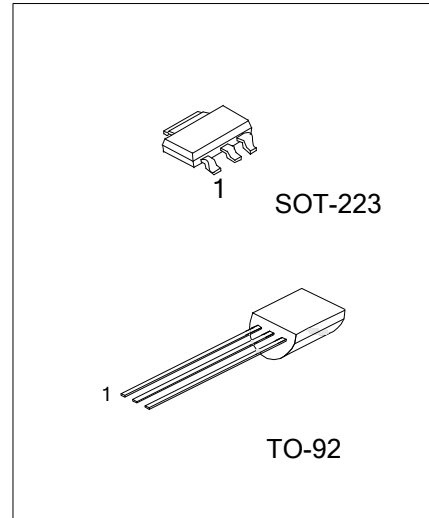
ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
-	UZ0103G-x-AA3-R	SOT-223	MT1	MT2	GATE	Tape Reel
UZ0103L-x-T92-B	UZ0103G-x-T92-B	TO-92	MT1	GATE	MT2	Tape Box
UZ0103L-x-T92-K	UZ0103G-x-T92-K	TO-92	MT1	GATE	MT2	Bulk

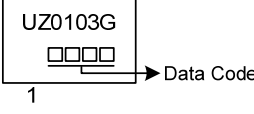
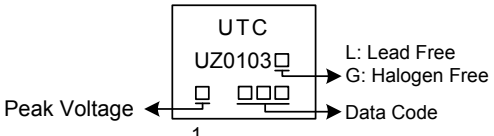
UZ0103G-x-AA3-R	
(1) Packing Type	(1) R: Tape Reel
(2) Package Type	(2) AA3: SOT-223, T92: TO-92
(3) Peak Voltage	(3) 6: 600V, 8: 800V
(4) Green Package	(4) G: Halogen Free and Lead Free, L: Lead Free

SENSITIVITY AND TYPE

VOLTAGE CODE	VOLTAGE		SENSITIVITY	TYPE
	600V	800V		
6	⊙		3mA	STANDARD
8		⊙	3mA	STANDARD



■ MARKING

SOT-223	TO-92
 UZ0103G □□□ Data Code 1	 UTC UZ0103□ □□□ Data Code Peak Voltage ← 1 L: Lead Free G: Halogen Free

■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Repetitive Peak Off-State Voltage	V_{DRM}	600	V
		800	V
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
		800	V
RMS On-State Current (full sine wave)	$I_{T(RMS)}$	1	A
Non Repetitive Surge Peak On-State Current (full cycle, T_J initial=25°C)	I_{TSM}	8	A
		8.5	A
I^2t Value for Fusing	I^2t	0.35	A ² s
Critical Rate of Rise of On-State Current: $I_G=2 \cdot I_{GT}$, $t_r \leq 100$ ns	di/dt	20	A/ μ s
Peak Gate Current	I_{GM}	1	A
Average Gate Power Dissipation	$P_{G(AV)}$	1	W
Operating Junction Temperature	T_J	-40~+125	°C
Storage Junction Temperature	T_{STG}	-40~+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 RESISTANCES

PARAMETER	SYMBOL	RATINGS	UNIT
Junction to Ambient	θ_{JA}	150	°C/W
		60	°C/W
Junction to Case	θ_{JC}	60	°C/W
		25	°C/W

Note: S=Copper surface under tab

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

PARAMETER	SYMBOL	TEST CONDITIONS	QUADRANT	MIN	TYP	MAX	UNIT
Repetitive Peak Off-State or Reverse Current	I_{DRM}, I_{RRM}	$V_{DRM}=V_{RRM}$	$T_J=25^\circ\text{C}$			5	μA
			$T_J=125^\circ\text{C}$			0.5	mA
Gate Trigger Current (Note 1)	I_{GT}	$V_D=12\text{V}, R_L=30\Omega$	I-II-III			3	mA
			IV			5	mA
Gate Trigger Voltage	V_{GT}		ALL			1.3	V
Gate Non-Trigger Voltage	V_{GD}	$V_D=V_{DRM}, R_L=3.3\text{k}\Omega, T_J=125^\circ\text{C}$	ALL	0.2			V
Holding Current (Note 2)	I_H	$I_T=50\text{mA}$				7	mA
Latching Current	I_L	$I_G=1.2I_{GT}$	I-III-IV			7	mA
			II			15	mA
Rise of Off-State Voltage (Note 2)	dV_D/dt	$V_D=67\%V_{DRM}$, Gate Open, $T_J=110^\circ\text{C}$		10			V/ μ s
Rise of Off-State Voltage at Commutation (Note 2)	$(dV_{COM}/dt)_C$	$(di/dt)_C=0.44\text{A/ms}$, $T_J=110^\circ\text{C}$		0.5			V/ μ s
On-State Voltage (Note 2)	V_{TM}	$I_{TM}=1.4\text{A}$, $t_p=380\mu\text{s}$, $T_J=25^\circ\text{C}$				1.56	V
Dynamic Resistance (Note 2)	R_D	Dynamic resistance, $T_J=125^\circ\text{C}$				400	m Ω

Notes: 1. Minimum I_{GT} is guaranteed at 5% of I_{GT} max.

2. For both polarities of MT2 referenced to MT1.

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.