

1A, 50V - 1000V Glass Passivated Rectifier

FEATURES

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability
- 3mm miniature body
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

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- High frequency rectification
- Freewheeling application
- Switching mode converters and inverters in computer and telecommunication

MECHANICAL DATA

- Case: TS-1
- Molding compound meets UL 94V-0 flammability rating
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Pure tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 0.2 g (approximately)

KEY PARAMETERS						
PARAMETER	VALUE	UNIT				
I _{F(AV)}	1	Α				
V_{RRM}	50 - 1000	V				
I _{FSM}	30	Α				
T_{JMAX}	150	ů				
Package	TS-1					
Configuration	Single Die					





TS-1

PARAMETER	SYMBOL	1T1G-K	1T2G-K	1T3G-K	1T4G-K	1T5G-K	1T6G-K	1T7G-K	UNIT
Marking code on the device		1T1G	1T2G	1T3G	1T4G	1T5G	1T6G	1T7G	
Repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Reverse voltage, total rms value	V _{R(RMS)}	35	70	140	280	420	560	700	V
Forward current	I _{F(AV)}				1				Α
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	I _{FSM}	30				А			
Junction temperature	T_J	- 55 to +150				°C			
Storage temperature	T _{STG}	- 55 to +150			°C				



1T1G-K - 1T7G-KTaiwan Semiconductor

THERMAL PERFORMANCE							
PARAMETER	SYMBOL	LIMIT	UNIT				
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	100	°C/W				

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT	
	1T1G-K				1 1	
	1T2G-K		V _F	-	1.1	V
	1T3G-K	I _F = 1A,T _J = 25°C		-		
Forward voltage per diode (1)	1T4G-K					
	1T5G-K				1.0	V
	1T6G-K					
	1T7G-K					
5 (2)		T _J = 25°C		-	5	μA
Reverse current @ rated V _R per d	iode 🟏	T _J = 125°C	- I _R	-	100	μA
Junction capacitance		1 MHz, V _R =4.0V	CJ	10	-	pF

Notes:

- 1. Pulse test with PW=0.3 ms
- 2. Pulse test with PW=30 ms

ORDERING	ORDERING INFORMATION								
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING					
	A0		TS-1	3,000 / Ammo box (52mm taping)					
1TxG-K	A1	G	TS-1	3,000 / Ammo box (26mm taping)					
(Note 1, 2)	R0	G	TS-1	5,000 / 13" Paper reel					
	В0		TS-1	1,000 / Bulk packing					

- 1. "x" defines voltage from 50V (1T1G-K) to 1000V (1T7G-K)
- 2. Whole series with green compound (halogen-free)

EXAMPLE P/N							
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION			
1T1G-K A0G	1T1G-K	A0	G	Green compound			



CHARACTERISTICS CURVES

 $(T_A = 25^{\circ}C \text{ unless otherwise noted})$

Fig.1 Forward Current Derating Curve

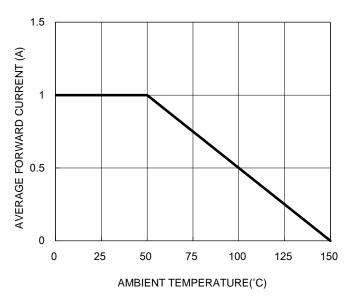


Fig.2 Typical Junction Capacitance

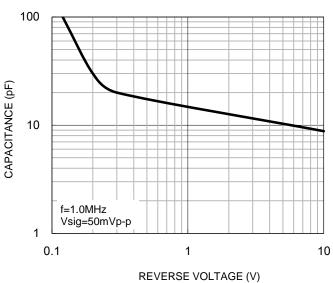


Fig.3 Typical Reverse Characteristics

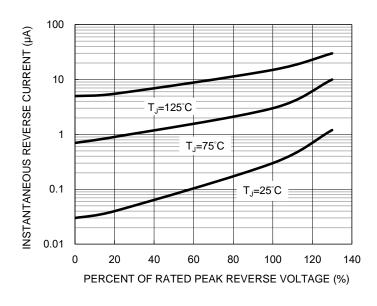
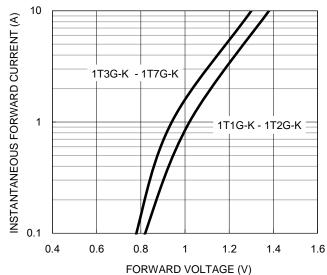


Fig.4 Typical Forward Characteristics





CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current

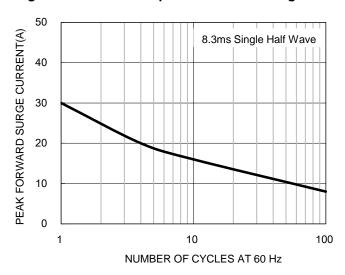
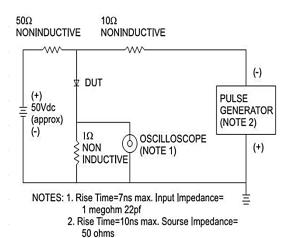
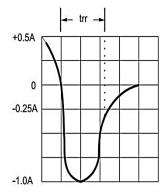


Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram



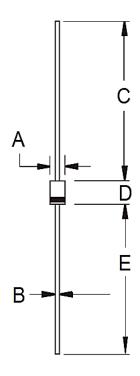






PACKAGE OUTLINE DIMENSIONS

TS-1



DIM.	Unit (ı	mm)	Unit (inch)		
DIIVI.	Min	Max	Min	Max	
Α	2.00	2.70	0.079	0.106	
В	0.53	0.64	0.021	0.025	
С	25.40	-	1.000	-	
D	3.00	3.30	0.118	0.130	
Е	25.40	-	1.000	-	

MARKING DIAGRAM



P/N = Marking Code= Green Compound G

ΥW = Date Code F = Factory Code



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