

1A, 50V - 1000V Glass Passivated Fast Recovery Rectifier

FEATURES

- Glass passivated chip junction
- High efficiency, Low V_F
- High current capability
- High reliability
- High surge current capability
- Low power loss
- 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}	T _{J MAX} 150					
Package	TS-1					
Configuration	Configuration Single Die					









TS-1

		F1T1	F1T2	F1T3	F1T4	F1T5	F1T6	F1T7	
PARAMETER	SYMBOL	G-K	G-K	G-K	G-K	G-K	G-K	G-K	UNIT
Marking code on the device		F1T1G	F1T2G	F1T3G	F1T4G	F1T5G	F1T6G	F1T7G	
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	- 55 to +150						°C		
Storage temperature	T _{STG}	- 55 to +150					°C		



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THERMAL PERFORMANCE							
PARAMETER	SYMBOL	LIMIT	UNIT				
Junction-to-ambient thermal resistance	$R_{\Theta JA}$	90	°C/W				

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT	
Forward voltage per diode (1)	I _F = 1A,T _J = 25°C	V _F	-	1.3	V	
D	T _J = 25°C	I _R	-	5	μA	
Reverse current @ rated V _R per diode ⁽²⁾			T _J = 125°C	-	150	μA
Junction capacitance		1 MHz, V _R =4.0V	CJ	15	-	pF
Reverse recovery time	F1T1G-K F1T2G-K F1T3G-K F1T4G-K	I _F =0.5A , I _R =1.0A	t _{rr}	-	150	ns
·	F1T5G-K	I _{RR} =0.25A		-	250	ns
	F1T6G-K F1T7G-K			-	500	ns

Notes:

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

RDERING INFORMATION							
PART NO.	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING			
	A0		TS-1	3,000 / Ammo box (52mm taping)			
F1TXG-K	A1	TS-1 TS-1 TS-1	3,000 / Ammo box (26mm taping)				
(Note 1, 2)	R0		TS-1	5,000 / 13" Paper reel			
	В0		TS-1	1,000 / Bulk packing			

Notes:

- 1. "x" defines voltage from 50V (F1T1G-K) to 1000V (F1T7G-K)
- 2. Whole series with green compound (halogen-free)

EXAMPLE P/N								
EXAMPLE P/N	PART NO.	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION				
F1T1G-K A0G	F1T1G-K	A0	G	Green compound				



CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

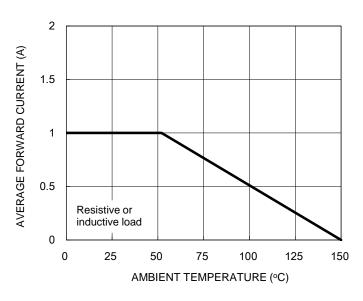


Fig.2 Typical Junction Capacitance

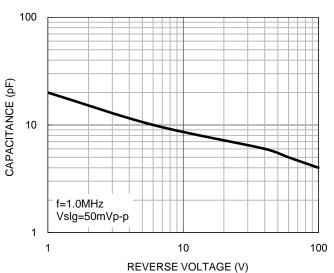


Fig.3 Typical Reverse Characteristics

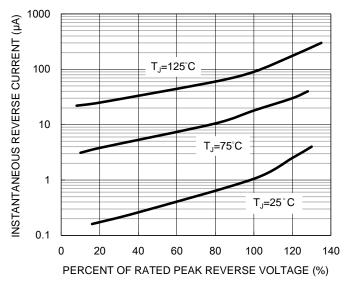
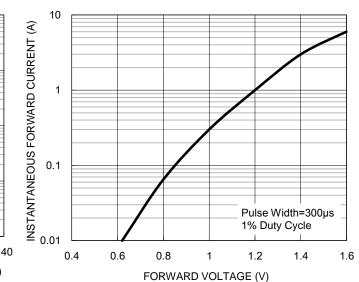


Fig.4 Typical Forward Characteristics



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CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.5 Maximum Non-repetitive Forward Surge Current

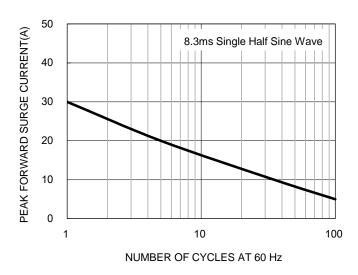
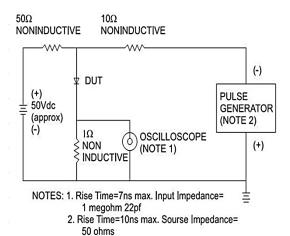
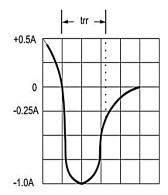


Fig.6 Reverse Recovery Time Characteristic And Test Circuit Diagram



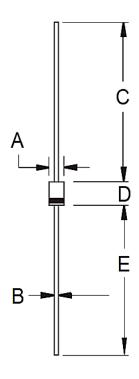






PACKAGE OUTLINE DIMENSIONS

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
E	25.40	-	1.000	-

MARKING DIAGRAM



= Marking Code= Green Compound P/N G

ΥW = Date Code F = Factory Code



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