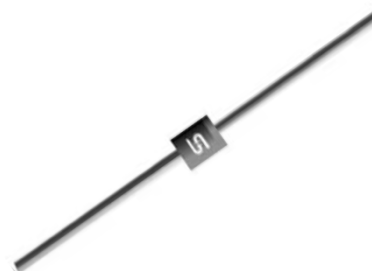


## Fast Recovery Rectifiers

### FEATURES

- High efficiency, Low VF
- 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 definition


**TS-1**


### MECHANICAL DATA

**Case:** TS-1

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - halogen-free

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 1A whisker test

**Weight:** 0.2g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)									
PARAMETER	SYMBOL	F1T1	F1T2	F1T3	F1T4	F1T5	F1T6	F1T7	UNIT
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V <sub>RMS</sub>	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	200	400	600	800	1000	V
Maximum average forward rectified current	I <sub>F(AV)</sub>	1							A
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I <sub>FSM</sub>	30							A
Maximum instantaneous forward voltage (Note 1) @ 1 A	V <sub>F</sub>	1.2							V
Maximum reverse current @ rated VR T <sub>J</sub> =25 °C T <sub>J</sub> =125 °C	I <sub>R</sub>	5 150							μA
Maximum reverse recovery time (Note 2)	T <sub>rr</sub>	150			250		500		ns
Typical junction capacitance (Note 3)	C <sub>j</sub>	10							pF
Typical thermal resistance	R <sub>θJA</sub>	100							°C/W
Operating junction temperature range	T <sub>J</sub>	- 55 to +150							°C
Storage temperature range	T <sub>STG</sub>	- 55 to +150							°C

Note 1: Pulse test with PW=300 μs, 1% duty cycle

Note 2: Reverse Recovery Test Conditions: I<sub>F</sub>=0.5A, I<sub>R</sub>=1.0A, I<sub>RR</sub>=0.25A

Note 3: Measured at 1 MHz and Applied Reverse Voltage of 4.0V D.C.

**ORDERING INFORMATION**

PART NO.	PACKING CODE	GREEN COMPOUND CODE	PACKAGE	PACKING
F1Tx (Note 1)	A0	Suffix "G"	TS-1	3,000 / Ammo box (52mm taping)
	A1		TS-1	3,000 / Ammo box (26mm taping)
	R0		TS-1	5,000 / 13" Paper reel
	B0		TS-1	1,000 / Bulk packing

Note 1: "x" defines voltage from 50V (F1T1) to 1000V (F1T7)

**EXAMPLE**

PREFERRED P/N	PART NO.	PACKING CODE	GREEN COMPOUND CODE	DESCRIPTION
F1T7 A0	F1T7	A0		
F1T7 A0G	F1T7	A0	G	Green compound

**RATINGS AND CHARACTERISTICS CURVES**

(TA=25°C unless otherwise noted)

FIG. 1- MAXIMUM TYPICAL FORWARD CURRENT DERATING CURVE

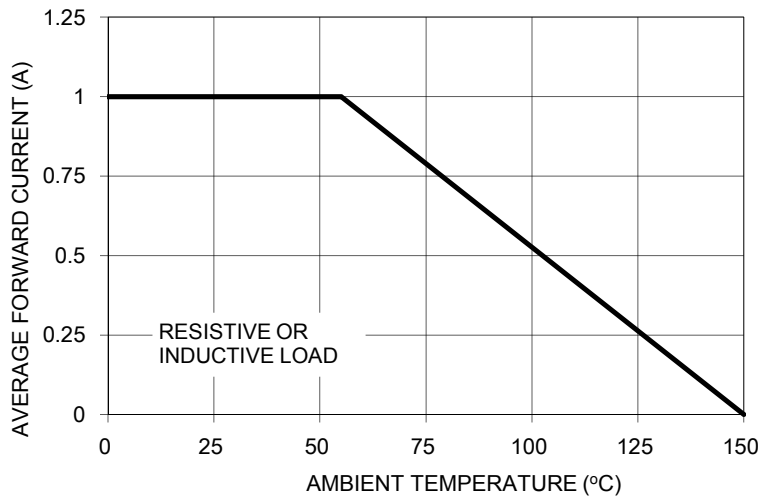


FIG. 2- TYPICAL REVERSE CHARACTERISTICS

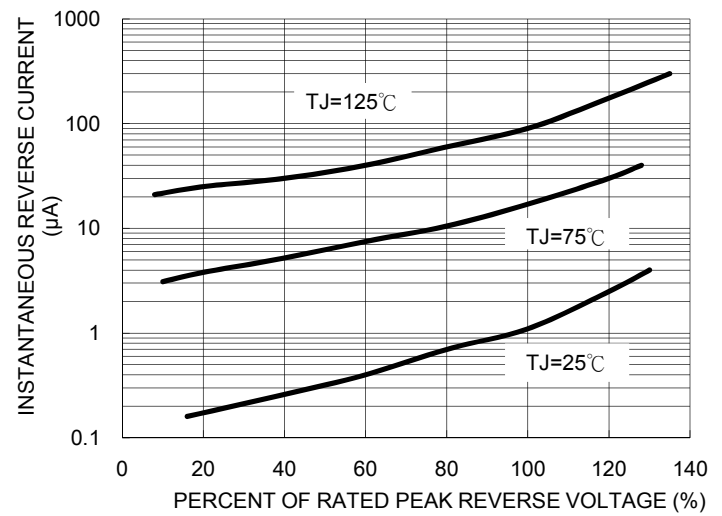


FIG. 3- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

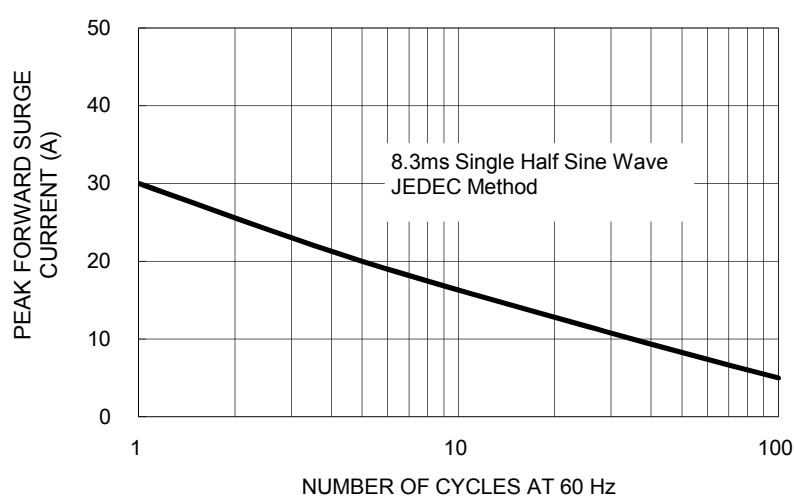


FIG. 5- TYPICAL FORWARD CHARACTERISTICS

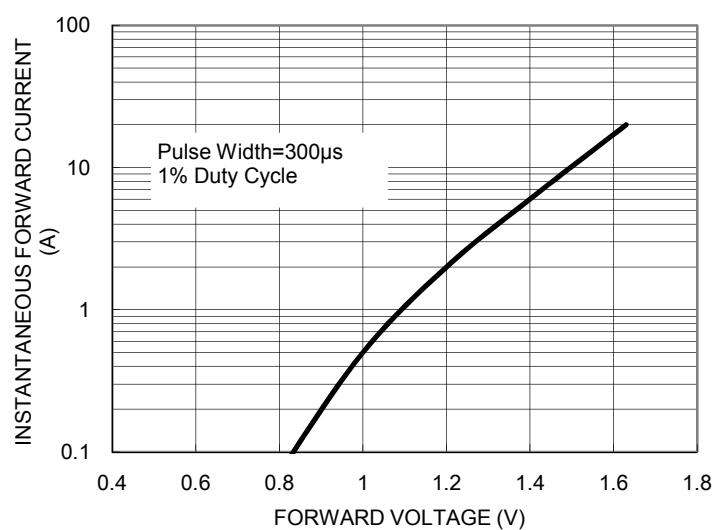


FIG. 5- TYPICAL JUNCTION CAPACITANCE

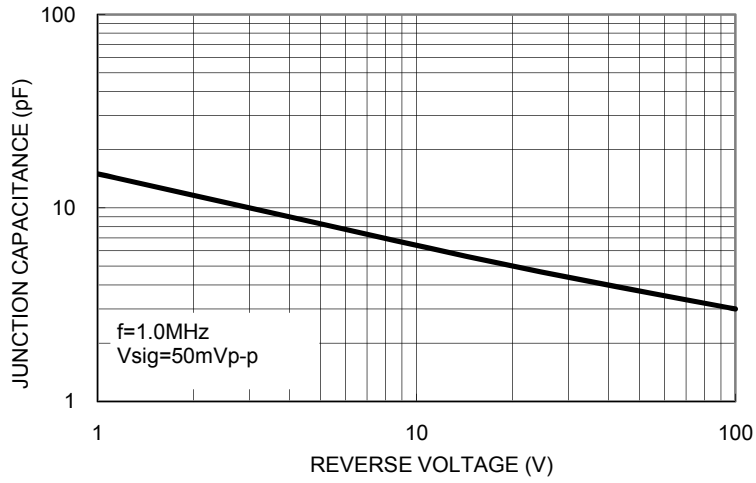
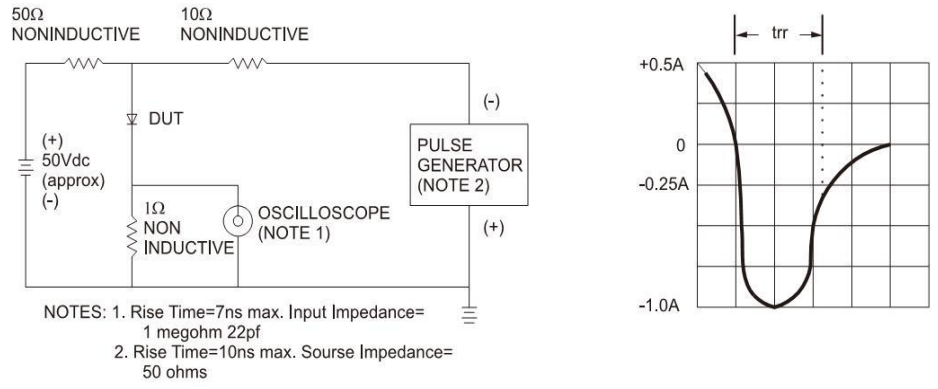
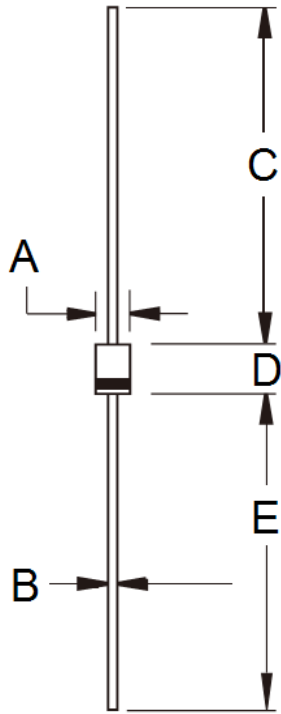


FIG.6- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

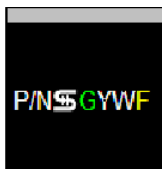


PACKAGE OUTLINE DIMENSIONS



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	2.00	2.70	0.079	0.106
B	0.53	0.64	0.021	0.025
C	25.40	-	1.000	-
D	3.00	3.30	0.118	0.130
E	25.40	-	1.000	-

MARKING DIAGRAM



P/N = Specific Device Code  
G = Green Compound  
YW = Date Code  
F = Factory Code

## Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.