

Small Signal Product

SMD Zener Diode

FEATURES

- Wide zener voltage range selection : 2.4V to 39V
- Designed for mounting on small surface
- Extremely thin / leadless package
- Packing code with suffix "G" means green compound (halogen-free)


1005


MECHANICAL DATA

- Case: 1005
- Terminal: Gold plated, solderable per MIL-STD-750, method 2026
- Polarity : Indicated by cathode band
- Weight : 0.006 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T _A =25°C unless otherwise noted)			
PARAMETER	SYMBOL	VALUE	UNIT
Power Dissipation	P _D	200	mW
Forward Voltage @ I _F = 10mA	V _F	0.9	V
Forward Current, Surge Peak 8.3 ms Single Half Sine-Wave Superimposed on Rate Load	I _{FSM}	2	A
Junction and Storage Temperature Range	T _J , T _{STG}	-55 to +125	°C

Small Signal Product

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

Device	Device Marking Code	Zener Voltage			Operating Resistance		Rising Operating Resistance		Reverse Current	
		V_Z (Volt)			Z_{ZT} (Ohm)		Z_{ZK} (Ohm)		$I_R(\mu\text{A})$	
		Min	Max	I_Z (mA)	Max	I_Z (mA)	Max	I_Z (mA)	Max	V_R (V)
TSZL52C2V4	Z2	2.28	2.52	5	85	5	600	1	100	1.0
TSZL52C2V7	Z3	2.57	2.84	5	83	5	500	1	75	1.0
TSZL52C3V0	Z4	2.85	3.15	5	95	5	500	1	50	1.0
TSZL52C3V3	Z5	3.14	3.47	5	95	5	500	1	25	1.0
TSZL52C3V6	Z6	3.42	3.78	5	95	5	500	1	15	1.0
TSZL52C3V9	Z7	3.71	4.10	5	95	5	500	1	10	1.0
TSZL52C4V3	Z8	4.09	4.52	5	95	5	500	1	5.0	1.0
TSZL52C4V7	Z9	4.47	4.94	5	78	5	500	1	5.0	2.0
TSZL52C5V1	ZA	4.85	5.36	5	60	5	480	1	0.1	0.8
TSZL52C5V6	ZB	5.32	5.88	5	40	5	400	1	0.1	1.0
TSZL52C6V2	ZC	5.89	6.51	5	10	5	200	1	0.1	2.0
TSZL52C6V8	ZE	6.46	7.14	5	8	5	150	1	0.1	3.0
TSZL52C7V5	ZF	7.13	7.88	5	7	5	50	1	0.1	5.0
TSZL52C8V2	ZG	7.79	8.61	5	7	5	50	1	0.1	6.0
TSZL52C9V1	ZH	8.65	9.56	5	10	5	50	1	0.1	7.0
TSZL52C10	ZJ	9.50	10.50	5	15	5	70	1	0.1	7.5
TSZL52C11	ZK	10.45	11.55	5	20	5	70	1	0.1	8.5
TSZL52C12	ZM	11.40	12.60	5	20	5	90	1	0.1	9.0
TSZL52C13	ZN	12.35	13.65	5	25	5	110	1	0.1	10
TSZL52C15	ZP	14.25	15.75	5	30	5	110	1	0.1	11
TSZL52C16	ZQ	15.20	16.80	5	40	5	170	1	0.1	12
TSZL52C18	ZR	17.10	18.90	5	50	5	170	1	0.1	14
TSZL52C20	ZS	19.00	21.00	5	50	5	220	1	0.1	15
TSZL52C22	ZT	20.90	23.10	5	55	5	220	1	0.1	17
TSZL52C24	ZU	22.80	25.20	5	80	5	220	1	0.1	18
TSZL52C27	ZV	25.65	28.35	5	80	5	250	1	0.1	20
TSZL52C30	ZW	28.50	31.50	5	80	5	250	1	0.1	23
TSZL52C33	ZX	31.35	34.65	5	80	5	250	1	0.1	25
TSZL52C36	ZY	34.20	37.80	5	90	5	250	1	0.1	27
TSZL52C39	ZZ	37.05	40.95	5	90	5	300	1	0.1	29

Small Signal Product

RATINGS AND CHARACTERISTICS CURVES

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

Fig. 1 Temperature Coefficients

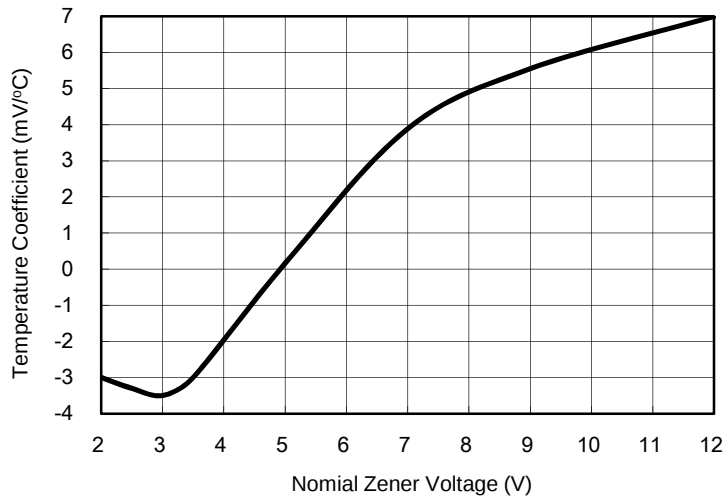


Fig. 2 Temperature Coefficient

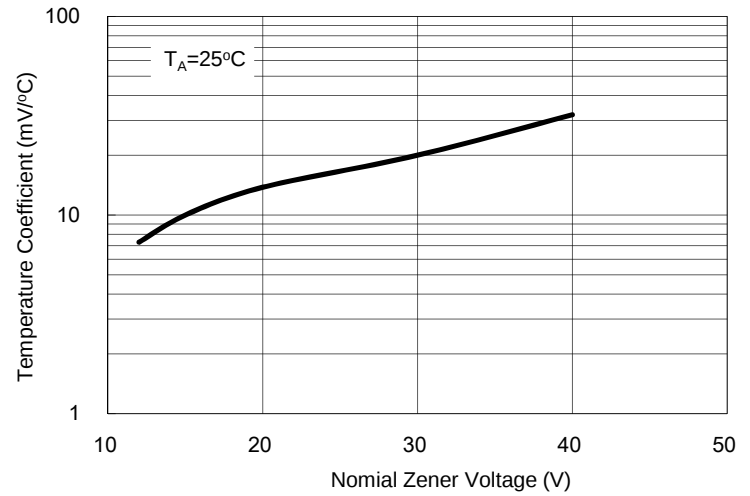


Fig. 3 Effect of Zener Voltage on Zener Impedance

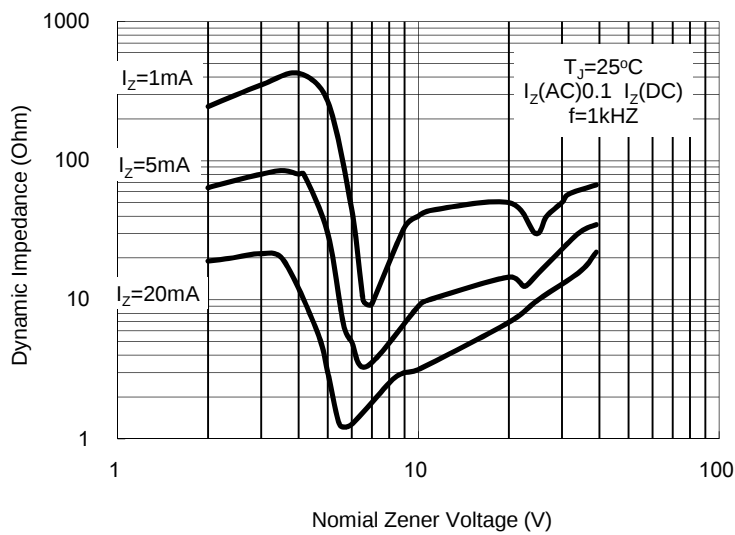


Fig. 4 Typical Forward Voltage

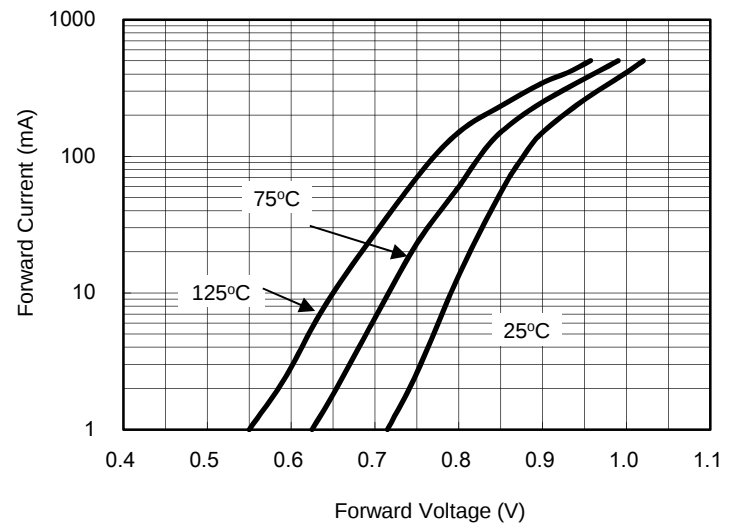


Fig. 5 Typical Leakage Current

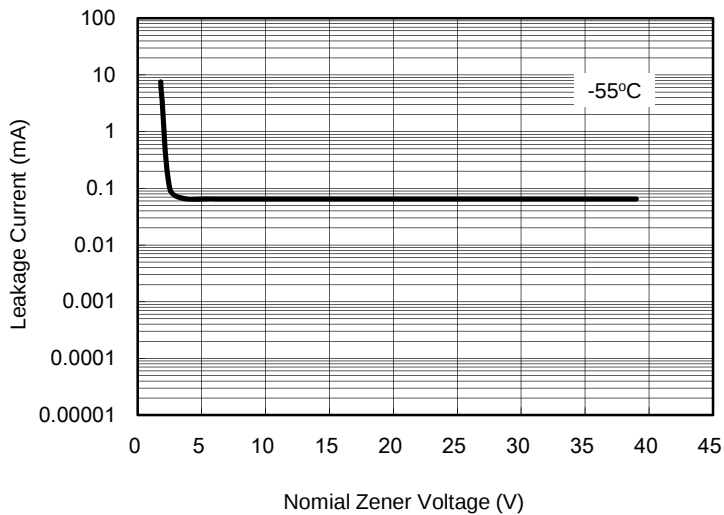
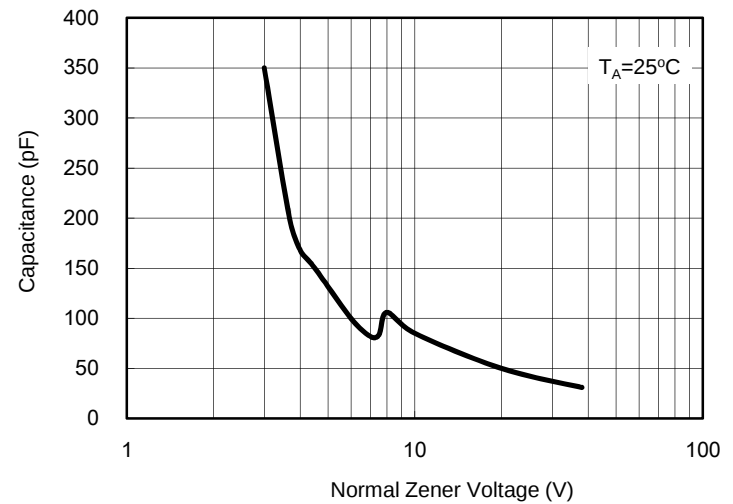


Fig. 6 Typical Capacitance



Small Signal Product

Fig. 7 Zener Voltage VS. Zener Current

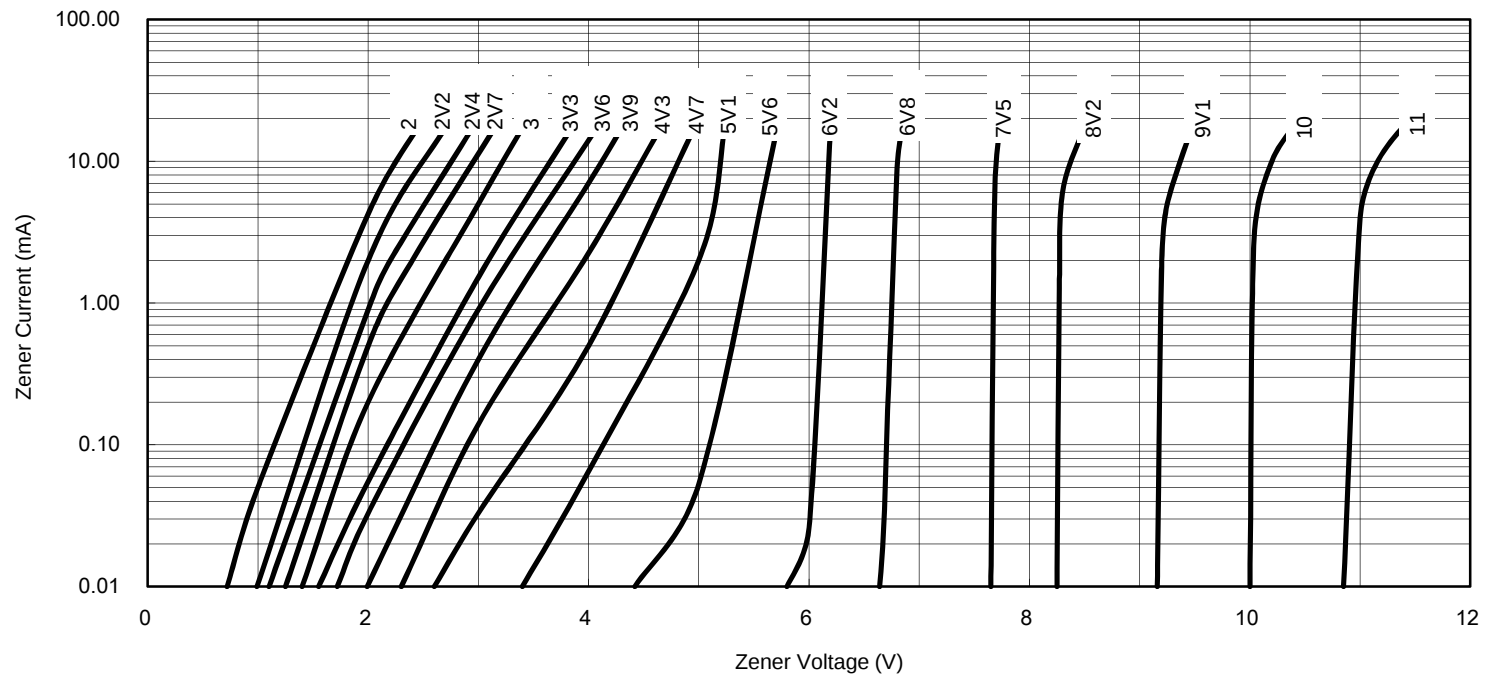


Fig. 8 Zener Voltage vs. Zener Currnt

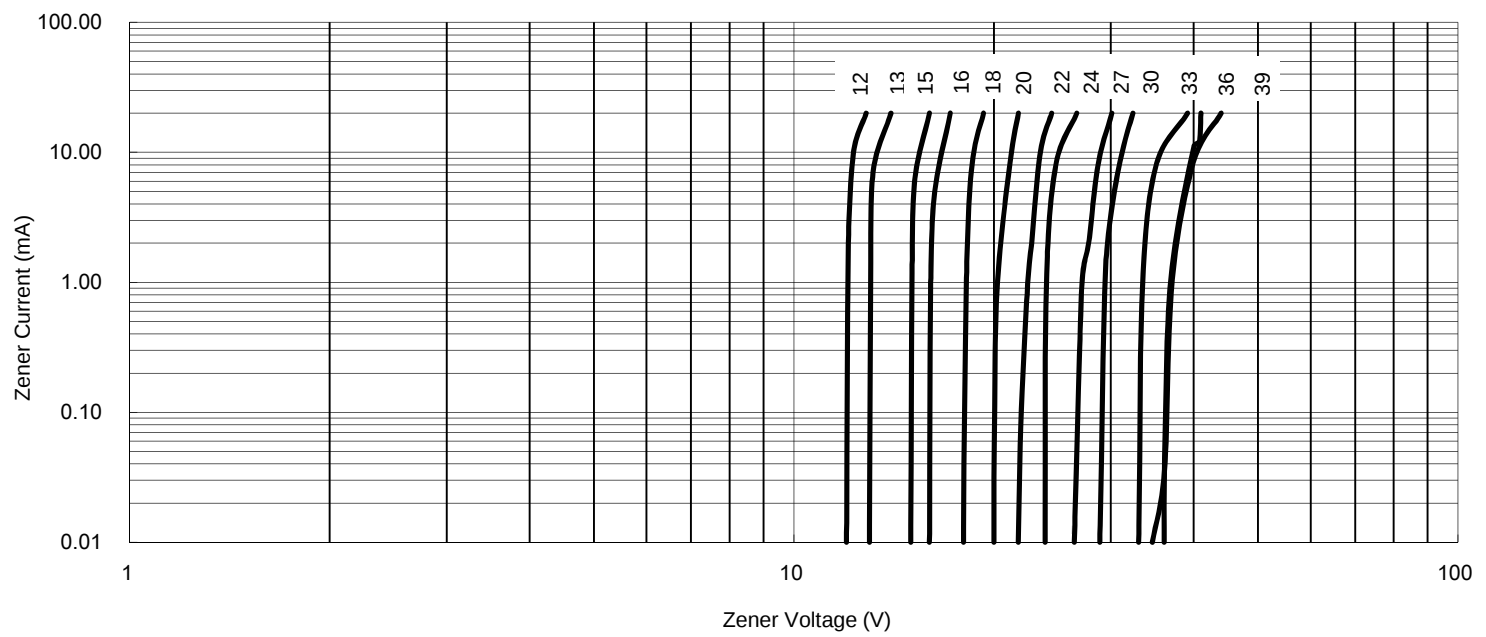
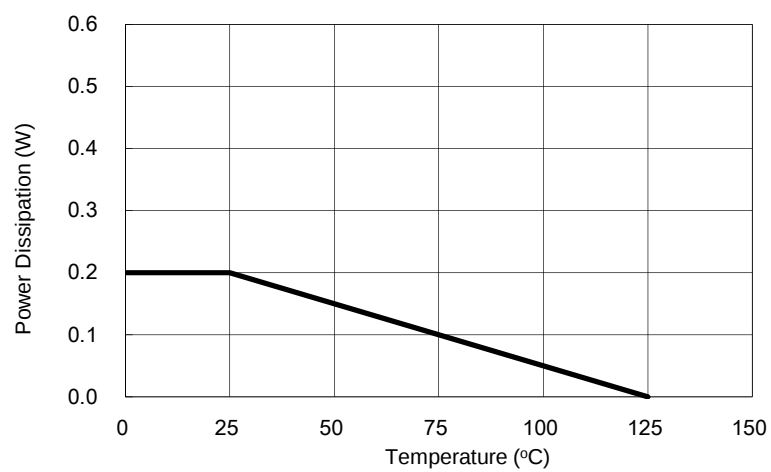


Fig. 9 Steady State Power Derating



Small Signal Product

ORDERING INFORMATION

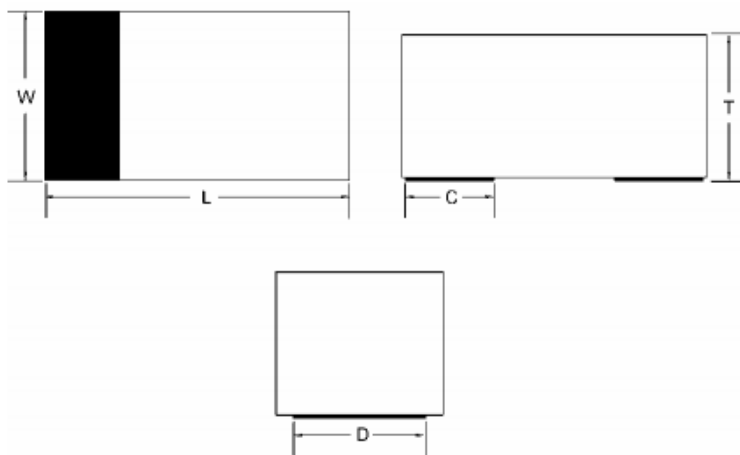
PART NO.	PART NO. SUFFIX (Note 2)	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
TSZL52Cxxx (Note1)	-xx	RW	G	1005	4K / 7" Reel

Note 1: "xxx" defines voltage from 2.4V (TSZL52C2V4) to 39V (TSZL52C39)

Note 2: Part No. Suffix „-xx “ would be used for special requirement

EXAMPLE

PREFERRED P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
TSZL52C39 RWG	TSZL52C39		RW	G	Multiple manufacture source Green compound
TSZL52C39-F0 RWG	TSZL52C39	-F0	RW	G	Define manufacture source Green compound

PACKAGE OUTLINE DIMENSION
1005


DIM.	Unit (mm)			Unit (inch)		
	Min	Typ	Max	Min	Typ	Max
L	2.4	-	2.6	0.094	-	0.102
W	1.1	-	1.3	0.043	-	0.051
T	0.7	-	0.9	0.028	-	0.035
C	-	0.5	-	-	0.020	-
D	-	1.0	-	-	0.039	-

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 or 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.