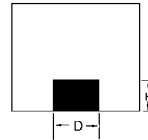
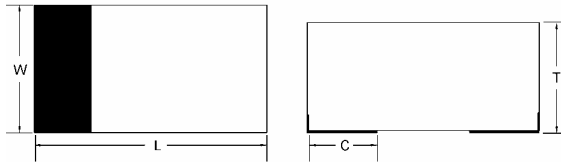


# TSZL52C2V4 – TSZL52C39

## 200mW SMD Zener Diode

**1005**



### Features

- ✧ 200mW Power dissipation.
- ✧ High voltages from 2 ~ 39V
- ✧ Designed for mounting on small surface
- ✧ Extremely thin/leadless package
- ✧ Pb free product

### Mechanical Data

- ✧ Cases: 1005 standard package, molded plastic
- ✧ Terminals: Gold plated, solderable per MIL-STD-750, method 2026,
- ✧ Polarity: Indicated by cathode band
- ✧ Weight: 0.006gram (approximately)

Item	1005
L	0.102(2.60) 0.095(2.40)
W	0.051(1.30) 0.043(1.10)
T	0.035(0.90) 0.027(0.70)
C	0.020(0.50) Typical
D	0.020(0.50) Typical
H	0.012(0.30) Typ.

Dimensions in inches and (millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.  
Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

Type Number	Symbol	Value	Units
Maximum Forward Voltage Drop at $I_F=10\text{mA}$	$V_F$	0.9	V
Maximum Power Dissipation	$P_d$	200	mW
Forward Current, Surge Peak 8.3ms Single half Sine-Wave superimposed on Rate Load (JEDEC method)	$I_{FSM}$	2.0	A
Operating Junction and Storage Temperature Range	$T_{STG}, T_J$	-65 to +125	°C

Version: A07

RATINGS AND CHARACTERISTIC CURVES (TSZL52C2 THRU TSZL52C39)

Fig.1 TEMPERATURE COEFFICIENTS

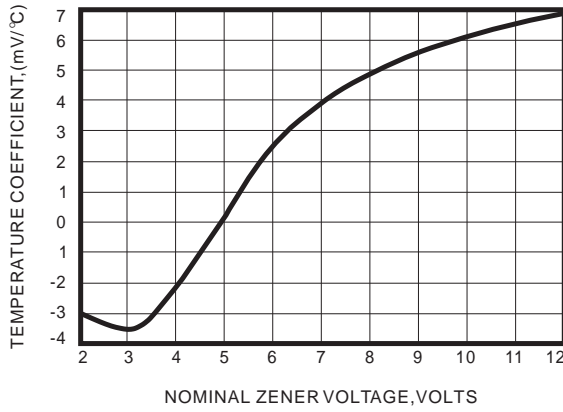


Fig.2 TEMPERATURE COEFFICIENTS

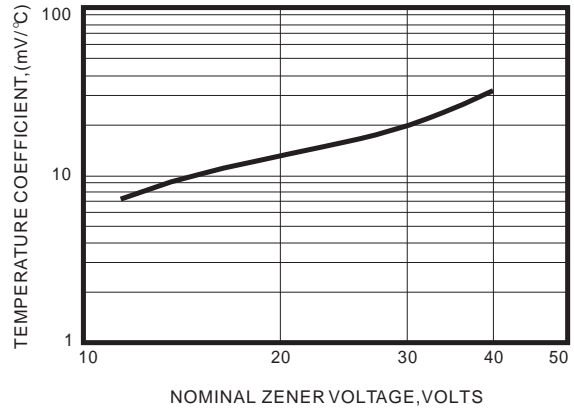


Fig.3 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

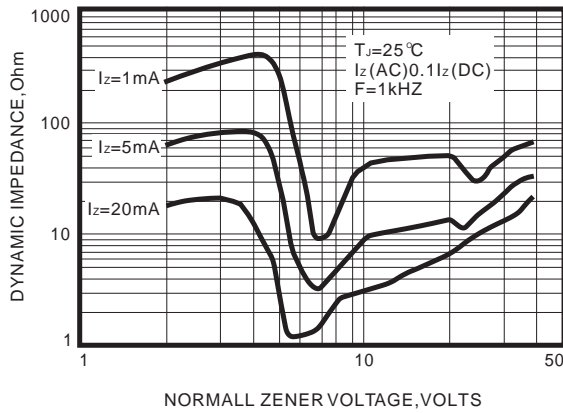


Fig.4 TYPICAL FORWARD VOLTAGE

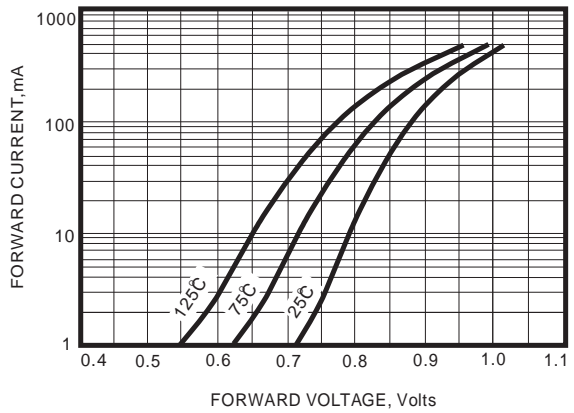


Fig.5 TYPICAL LEAKAGE CURRENT

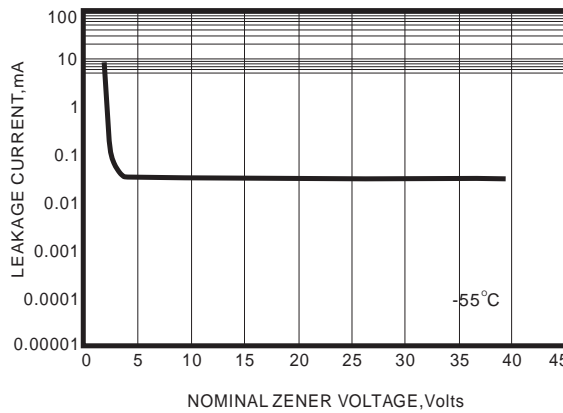
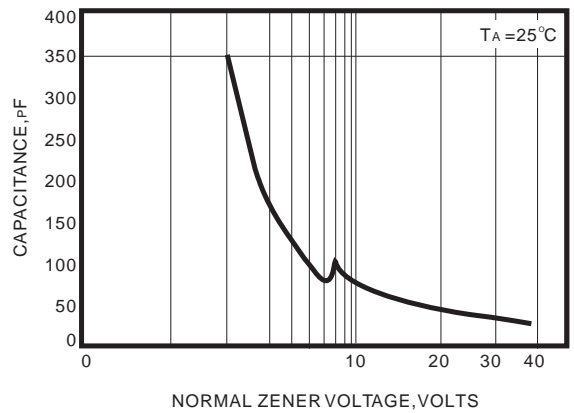


Fig.6 TYPICAL CAPACITANCE



RATINGS AND CHARACTERISTIC CURVES (TSZL52C2 THRU TSZL52C39)

Fig.7 ZENER VOLTAGE VERSUS ZENER CURRENT

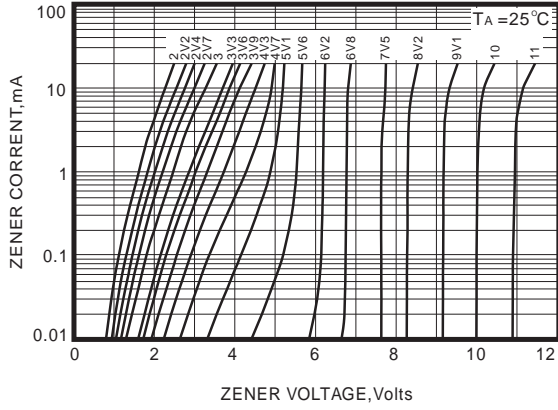


Fig.8 ZENER VOLTAGE VERSUS ZENER CURRENT

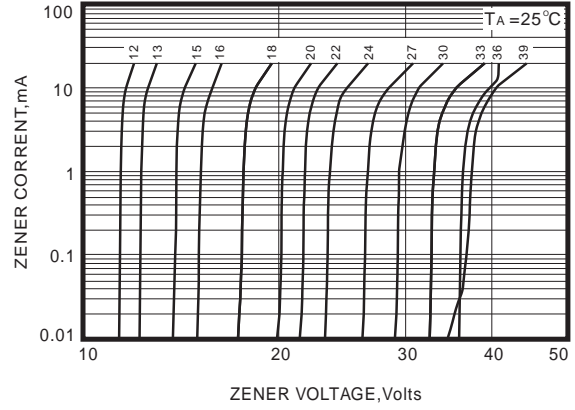
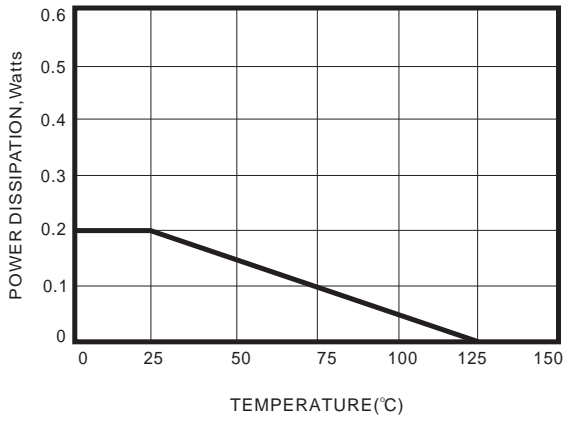


Fig.9 STEADY STATE POWER DERATING



ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Device	Device Marking Code	Zener Voltage			Operating Resistance		Rising Operating Resistance		Reverse Current	
		V <sub>Z</sub> (V)			ZZT(Ohm)		ZZK(Ohm)		I <sub>R</sub> (uA)	
		Min	Max	I <sub>Z</sub> (mA)	Max	I <sub>Z</sub> (mA)	Max	I <sub>Z</sub> (mA)	Max	V <sub>R</sub> (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
TSCU52C10	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

Version: A07