

SMD Zener Diode



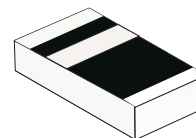
SMD Diodes Specialist

CZRSC55C2V0-G Thru CZRSC55C36-G

Voltage: 2.0 to 36 Volts

Power: 0.5 Watts

RoHS Device

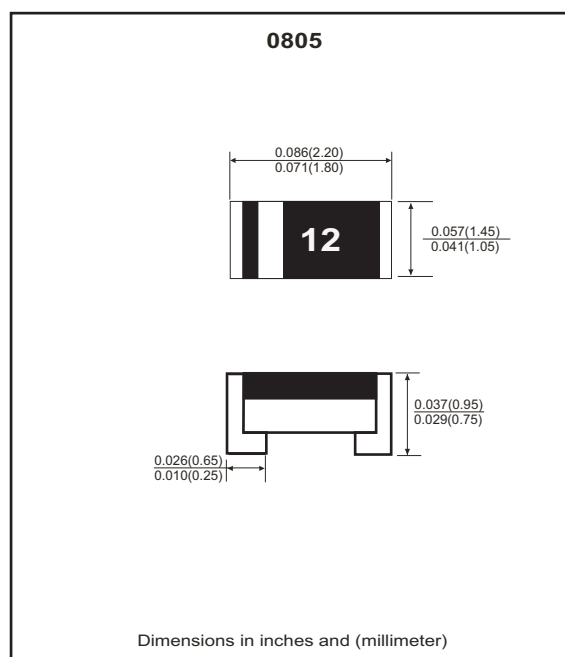


Features

- This diode is also available in other case styles including the 1206 case with the type designation.
- Silicon Planar Power Zener Diode.

Mechanical data

- Case: 0805
- Weight: approx. 6mg
- Marking: Cathode band.



Maximum Rating and Thermal Characteristics (Tamb = 25°C)

Parameter	Symbol	Value	Unit
Power Dissipation	P _{tot}	500	mW
Junction Temperature	T _J	175	°C
Storage Temperature Range	T _{STG}	-65 to +175	°C
Thermal Resistance Junction to Ambient Air	R _{θJA}	300	°C/W

Electrical Characteristics

Parameter	Symbol	Max	Unit
Forward voltage I _F =200mA	V _F	1.5	V

Electrical Characteristics(Ta = 25°C)

Part Number	Nominal Zener Voltage		Maximum Zener Impedance				Maximum Reverse Leakage Current		Maximum DC Zener Current	Marking Code
	VZ @ IZT		ZZT @ IZT		ZZK @ IZK		IR @ VR		IZM	
	Min V	Max V	(Ω)	(mA)	(Ω)	(mA)	(uA)	(V)	(mA)	
CZRSC55C2V0-G	1.90	2.10	85	5.0	600	1.0	100	4.0	241	2V0
CZRSC55C2V2-G	2.09	2.31	85	5.0	600	1.0	75	5.2	440	2V2
CZRSC55C2V4-G	2.28	2.52	85	5.0	600	1.0	50	6.0	400	2V4
CZRSC55C2V7-G	2.57	2.84	85	5.0	600	1.0	10	6.5	364	2V7
CZRSC55C3V0-G	2.85	3.15	85	5.0	600	1.0	4	7.0	328	3V0
CZRSC55C3V3-G	3.14	3.47	85	5.0	600	1.0	2	8.0	300	3V3
CZRSC55C3V6-G	3.42	3.78	85	5.0	600	1.0	2	8.4	272	3V6
CZRSC55C3V9-G	3.71	4.10	85	5.0	600	1.0	2	9.1	250	3V9
CZRSC55C4V3-G	4.09	4.52	80	5.0	600	1.0	1	9.9	230	4V3
CZRSC55C4V7-G	4.47	4.94	70	5.0	600	1.0	0.5	11.4	200	4V7
CZRSC55C5V1-G	4.85	5.36	50	5.0	550	1.0	0.1	12.2	186	5V1
CZRSC55C5V6-G	5.32	5.88	30	5.0	450	1.0	0.1	13.7	166	5V6
CZRSC55C6V2-G	5.89	6.51	10	5.0	200	1.0	0.1	15.2	150	6V2
CZRSC55C6V8-G	6.46	7.14	8	5.0	150	1.0	0.1	16.7	136	6V8
CZRSC55C7V5-G	7.13	7.88	7	5.0	50	1.0	0.1	18.2	124	7V5
CZRSC55C8V2-G	7.79	8.61	7	5.0	50	1.0	0.1	20.6	110	8V2
CZRSC55C9V1-G	8.65	9.56	10	5.0	50	1.0	0.1	22.8	100	9V1
CZRSC55C10-G	9.50	10.50	15	5.0	70	1.0	0.1	25.1	90	10
CZRSC55C11-G	10.45	11.55	20	5.0	70	1.0	0.1	27.4	82	11
CZRSC55C12-G	11.40	12.60	20	5.0	90	1.0	0.1	29.7	76	12
CZRSC55C13-G	12.35	13.65	26	5.0	110	1.0	0.1	32.7	68	13
CZRSC55C15-G	14.25	15.75	30	5.0	110	1.0	0.1	35.8	62	15
CZRSC55C16-G	15.20	16.80	40	5.0	170	1.0	0.1	38.8	58	16
CZRSC55C18-G	17.10	18.90	50	5.0	170	1.0	0.1	42.6	52	18
CZRSC55C20-G	19.00	21.00	55	5.0	220	1.0	0.1	47.1	48	20
CZRSC55C22-G	20.90	23.10	55	5.0	220	1.0	0.1	51.7	44	22
CZRSC55C24-G	22.80	25.20	80	5.0	220	1.0	0.1	56.0	40	24
CZRSC55C27-G	25.65	28.35	80	5.0	220	1.0	0.1	62.2	36	27
CZRSC55C30-G	28.50	31.50	80	5.0	220	1.0	0.1	69.2	32	30
CZRSC55C33-G	31.35	34.65	80	5.0	220	1.0	0.1	76.0	30	33
CZRSC55C36-G	34.20	37.80	80	5.0	220	1.0	0.1	83.6	13	36

RATING AND CHARACTERISTIC CURVES (CZRSC552V0-G Thru CZRSC55C36-G)

Fig.1 Typical thermal resistance v.s. lead length

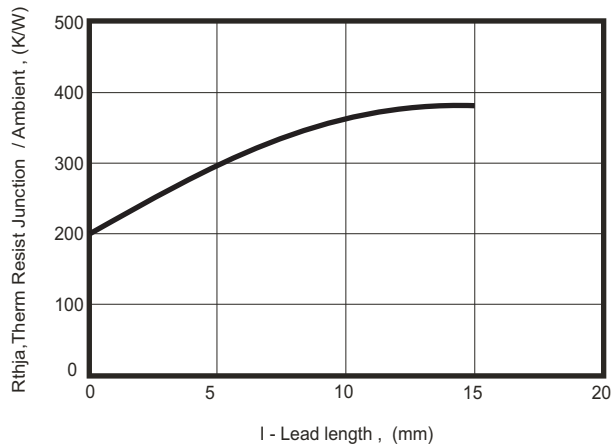


Fig.2 Total Power Dissipation vs. Ambient Temperature

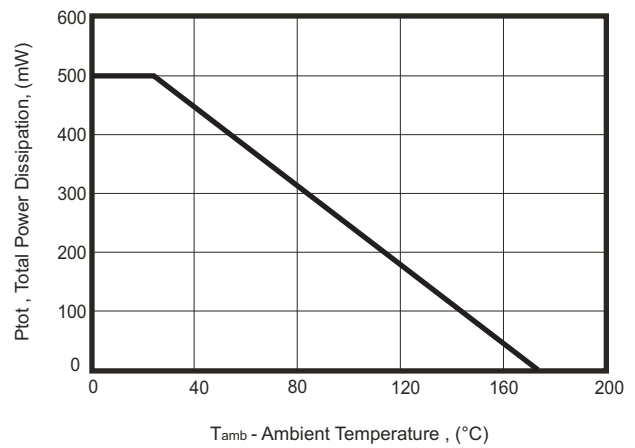


Fig.3 Typical Change of Working Voltage Under Operating Conditions at Tamb=25°C

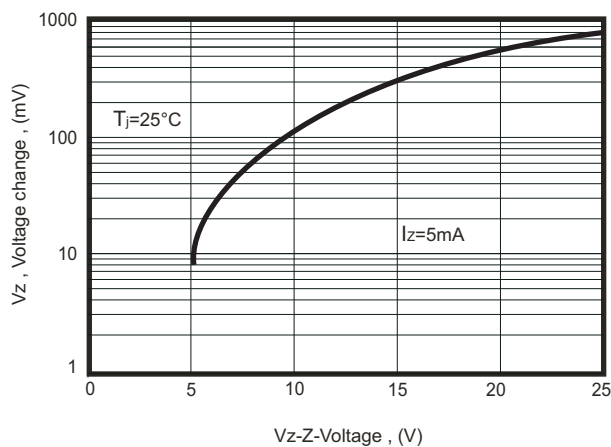


Fig.4 Maximum surge power

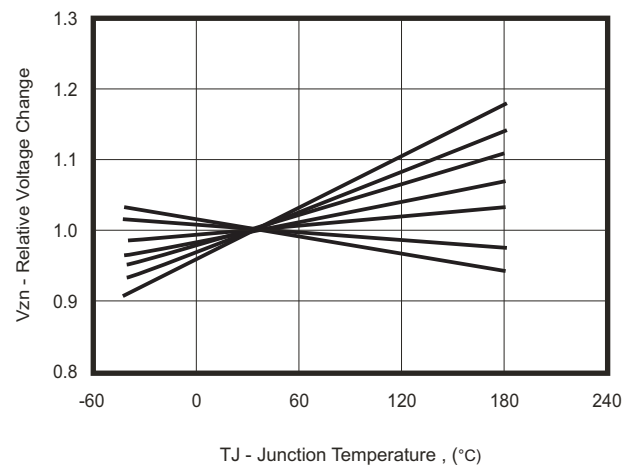


Fig.5- Temperature Coefficient of Vz vs Z-Voltage

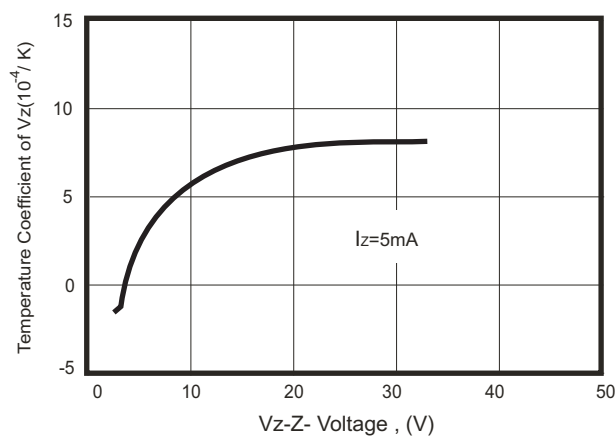
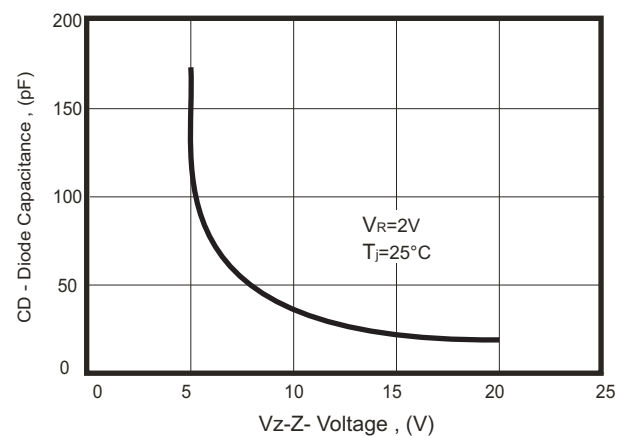


Fig.6-Diode Capacitance vs. Z-Voltage



RATING AND CHARACTERISTIC CURVES (CZRSC552V0-G Thru CZRSC55C36-G)

Fig.7- Forward Current Forward Voltage

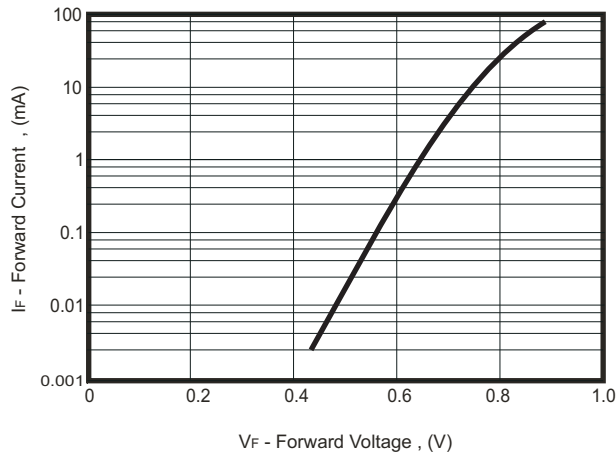


Fig.4- Z-Current vs. Z-Voltage

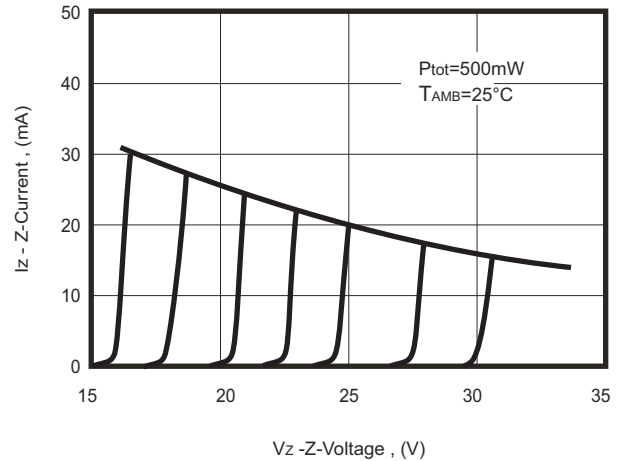


Fig.8- Z-Current vs. Z-Voltage

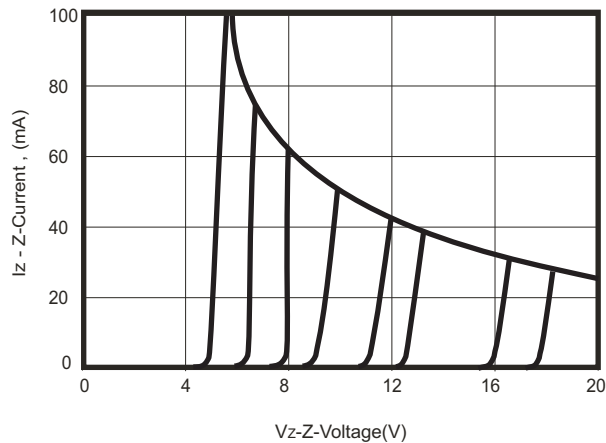


Fig.10- Differential Z-Resistance vs. Z-Voltage

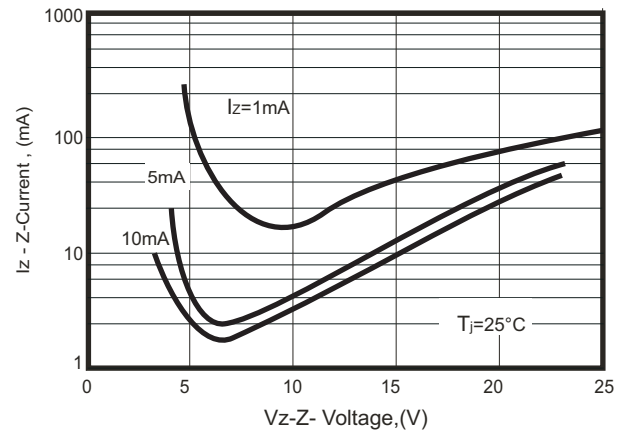
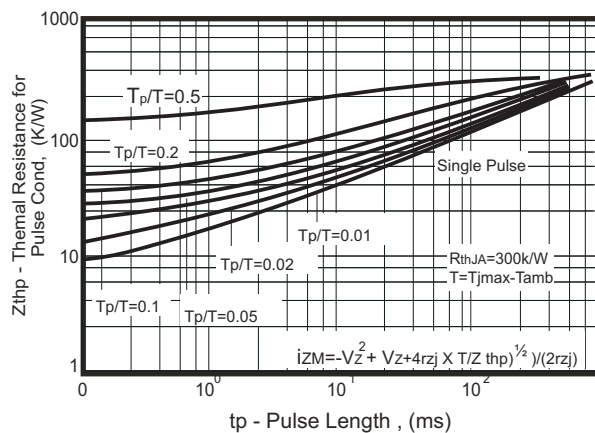
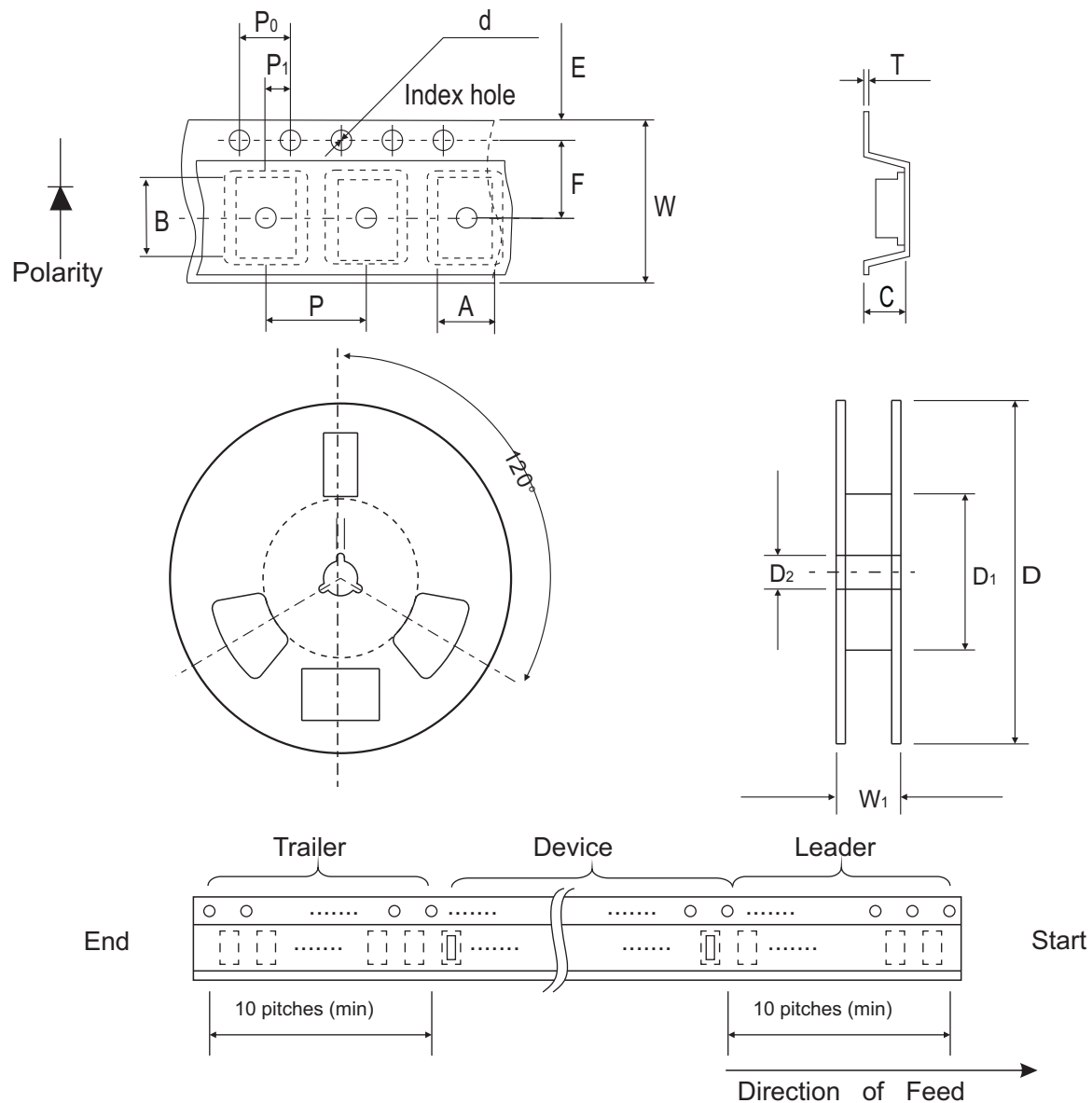


Fig.10- Thermal Response



Reel Taping Specification

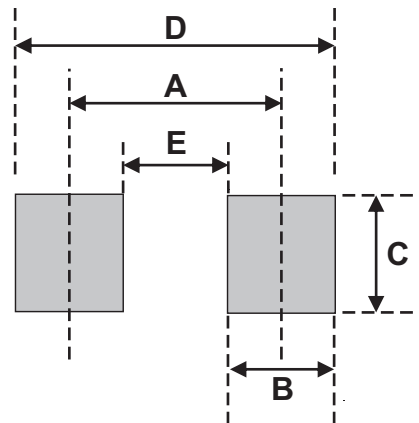


0805	SYMBOL	A	B	C	d	D	D ₁	D ₂
	(mm)	1.65 ± 0.20	2.40 ± 0.20	0.95 ± 0.05	1.50 ± 0.10	178.0 ± 1.00	60.0 ± 1.00	13.0 ± 0.30
	(inch)	0.065 ± 0.008	0.094 ± 0.008	0.037 ± 0.002	0.059 ± 0.004	7.007 ± 0.040	2.362 ± 0.040	0.512 ± 0.012

0805	SYMBOL	E	F	P	P ₀	P ₁	W	W ₁
	(mm)	1.75 ± 0.10	3.50 ± 0.10	4.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	8.00 ± 0.20	9.50 ± 0.30
	(inch)	0.689 ± 0.004	0.138 ± 0.004	0.157 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	0.315 ± 0.008	0.374 ± 0.012

Suggested PAD Layout

SIZE	0805	
	(mm)	(inch)
A	2.20	0.087
B	1.10	0.043
C	1.30	0.051
D	3.30	0.130
E	1.10	0.043



Standard Package

Case Type	Qty per Reel	Reel Size
	(Pcs)	(inch)
0805	5000	7

Mouser Electronics

Authorized Distributor

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Comchip Technology:

<u>CZRSC55C15-G</u>	<u>CZRSC55C2V0-G</u>	<u>CZRSC55C2V2-G</u>	<u>CZRSC55C2V4-G</u>	<u>CZRSC55C2V7-G</u>	<u>CZRSC55C3V0-G</u>
<u>CZRSC55C3V3-G</u>	<u>CZRSC55C3V6-G</u>	<u>CZRSC55C3V9-G</u>	<u>CZRSC55C4V3-G</u>	<u>CZRSC55C4V7-G</u>	<u>CZRSC55C5V1-G</u>
<u>CZRSC55C5V6-G</u>	<u>CZRSC55C6V2-G</u>	<u>CZRSC55C6V8-G</u>	<u>CZRSC55C7V5-G</u>	<u>CZRSC55C9V1-G</u>	