



Silicon Planar Power Zener Diodes

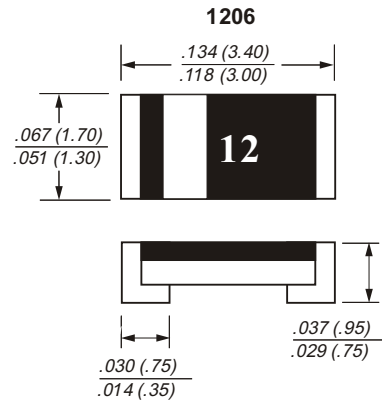
Power Dissipation 500mW

FEATURES

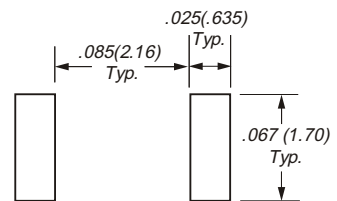
- This diode is also available in other case styles including the 0805 case with the type designation CTZ55C-S-Series.
- Silicon planar power zener diodes

MECHANICAL DATA

- Case : 1206
- Polarity : Color band denotes cathode
- Weight : 0.01 grams



Mounting Pad Layout



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

Maximum Ratings and Thermal Characteristics ($T_{amb} = 25^{\circ}C$, unless otherwise specified)

Parameter	Symbol	Value	Unit
Power dissipation	P_{tot}	500	mW
Junction temperature	T_j	175	°C
Storage temperature range	T_{stg}	- 65to + 175	°C
Thermal resistanceJunction to ambient air	R_{JA}	300	°C /W

Electrical Characteristics

Parameter	Symbol	Max	Unit
Forward voltage $I_F = 200\text{ mA}$	V_F	1.5	V



Electrical Characteristics

Part Number	Marking Code	Nominal Zener Voltage		Max Zener Impedance				Max Reverse Leakage Current	
		$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$		$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$	
		Min V	Max V	Ω	mA	Ω	mA	μA	V
CTZ55C2V0	2	1.90	2.10	85	5	600	1	100	1
CTZ55C2V2	2V2	2.09	2.31	85	5	600	1	75	1
CTZ55C2V4	2V4	2.28	2.52	85	5	600	1	50	1
CTZ55C2V7	2V7	2.57	2.84	85	5	600	1	10	1
CTZ55C3V0	3	2.85	3.15	85	5	600	1	4	1
CTZ55C3V3	3V3	3.14	3.47	85	5	600	1	2	1
CTZ55C3V6	3V6	3.42	3.78	85	5	600	1	2	1
CTZ55C3V9	3V9	3.71	4.10	85	5	600	1	2	1
CTZ55C4V3	4V3	4.09	4.52	80	5	600	1	1	1
CTZ55C4V7	4V7	4.47	4.94	70	5	600	1	0.5	1
CTZ55C5V1	5V1	4.85	5.36	50	5	550	1	0.1	1
CTZ55C5V6	5V6	5.32	5.88	30	5	450	1	0.1	1
CTZ55C6V2	6V2	5.89	6.51	10	5	200	1	0.1	2
CTZ55C6V8	6V8	6.46	7.14	8	5	150	1	0.1	3
CTZ55C7V5	7V5	7.13	7.88	7	5	50	1	0.1	5
CTZ55C8V2	8V2	7.79	8.61	7	5	50	1	0.1	6.1
CTZ55C9V1	9V1	8.65	9.56	10	5	50	1	0.1	6.8
CTZ55C10	10	9.50	10.50	15	5	70	1	0.1	7.5
CTZ55C11	11	10.45	11.55	20	5	70	1	0.1	8.2
CTZ55C12	12	11.40	12.60	20	5	90	1	0.1	9.0
CTZ55C13	13	12.35	13.65	26	5	110	1	0.1	9.7
CTZ55C15	15	14.25	15.75	30	5	110	1	0.1	11
CTZ55C16	16	15.20	16.80	40	5	170	1	0.1	12
CTZ55C18	18	17.10	18.90	50	5	170	1	0.1	14
CTZ55C20	20	19.00	21.00	55	5	220	1	0.1	15
CTZ55C22	22	20.90	23.10	55	5	220	1	0.1	17
CTZ55C24	24	22.80	25.20	80	5	220	1	0.1	18
CTZ55C27	27	25.65	28.35	80	5	220	1	0.1	20
CTZ55C30	30	28.50	31.50	80	5	220	1	0.1	22
CTZ55C33	33	31.35	34.65	80	5	220	1	0.1	24
CTZ55C36	36	34.20	37.80	80	5	220	1	0.1	27



Typical Characteristics ($T_{amb} = 25^{\circ}C$, unless otherwise specified)

Fig1. Thermal Resistance vs. Lead Length

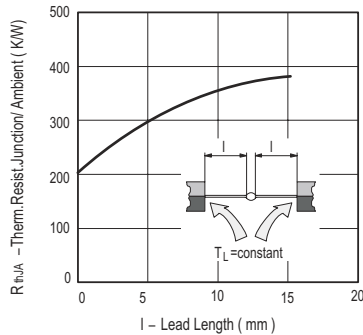


Fig 4. Typical Change of Working Voltage vs. Junction Temperature

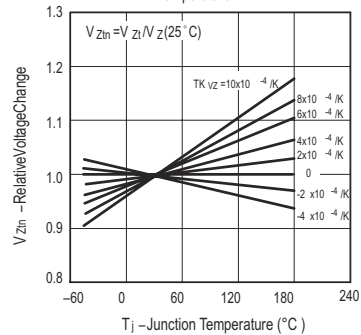


Fig2. Total Power Dissipation vs. Ambient Temperature

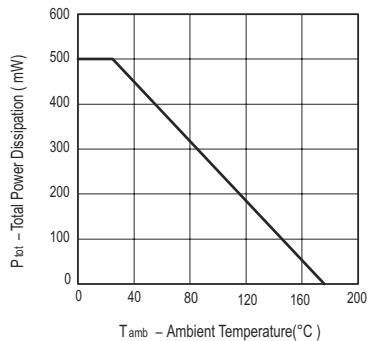


Fig5. Temperature Coefficient of Vz vs. Z-Voltage

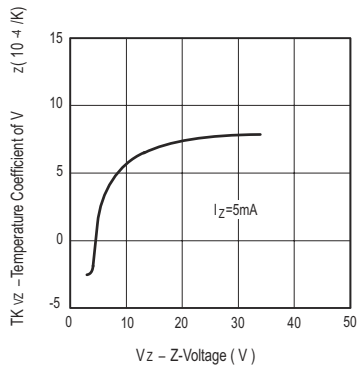


Fig3. Typical Change of Working Voltage under Operating Conditions at $T_{amb}=25^{\circ}C$

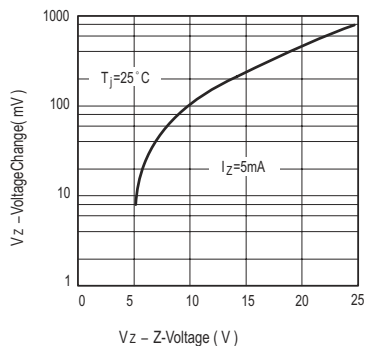


Fig 6. Diode Capacitance vs. Z-Voltage

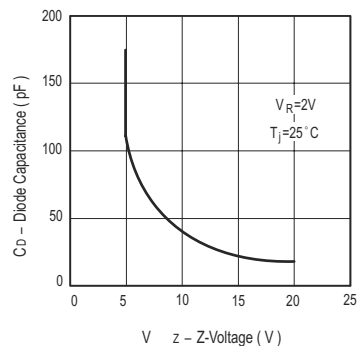




Fig 7. Forward Current vs. Forward Voltage

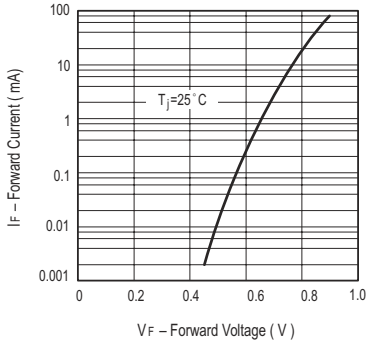


Fig 9. Z-Current vs. Z-Voltage

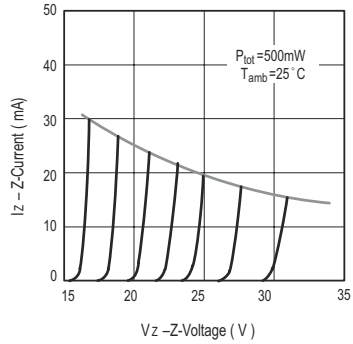


Fig 8. Z-Current vs. Z-Voltage

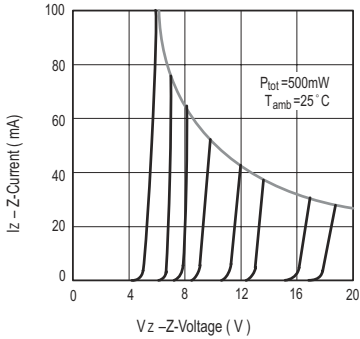


Fig 10. Differential Z-Resistance vs. Z-Voltage

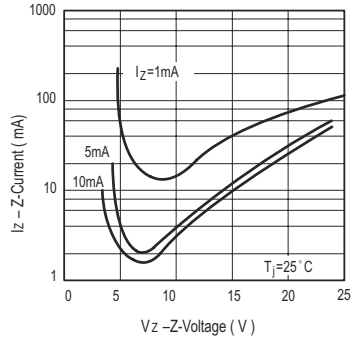
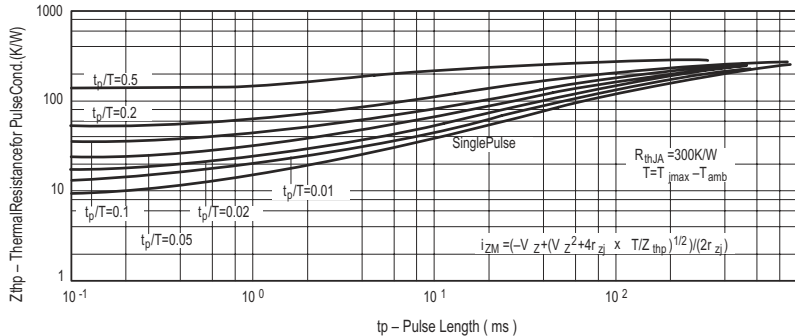


Fig 11. Thermal Response





Device outlook

Shanghai plant (front side)



Kunshan plant (front side)



Shanghai plant (back side)



Kunshan plant (back side)





Suggested thermal profiles for soldering processes

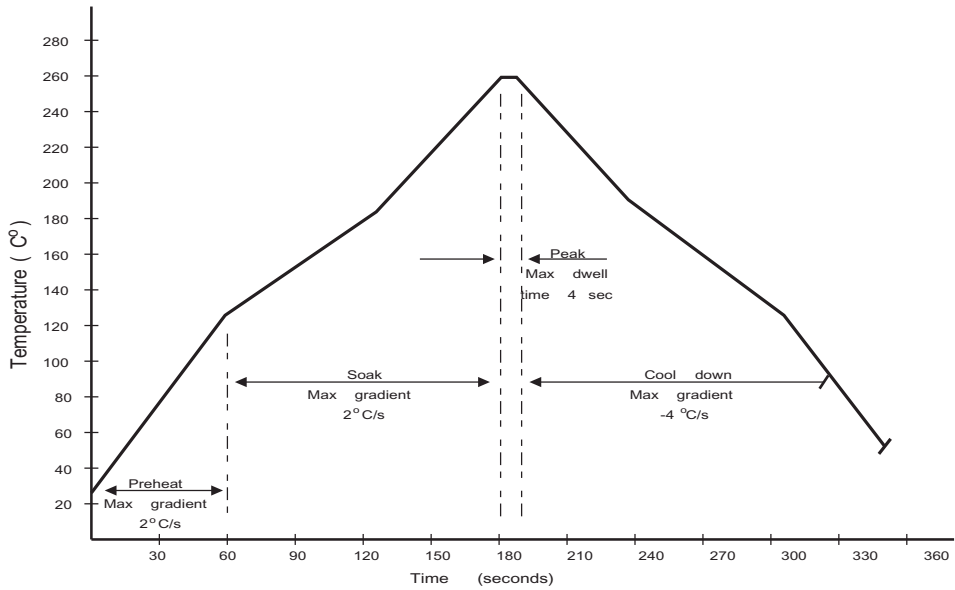


Fig.1 Typical Wave Soldering Thermal Profile

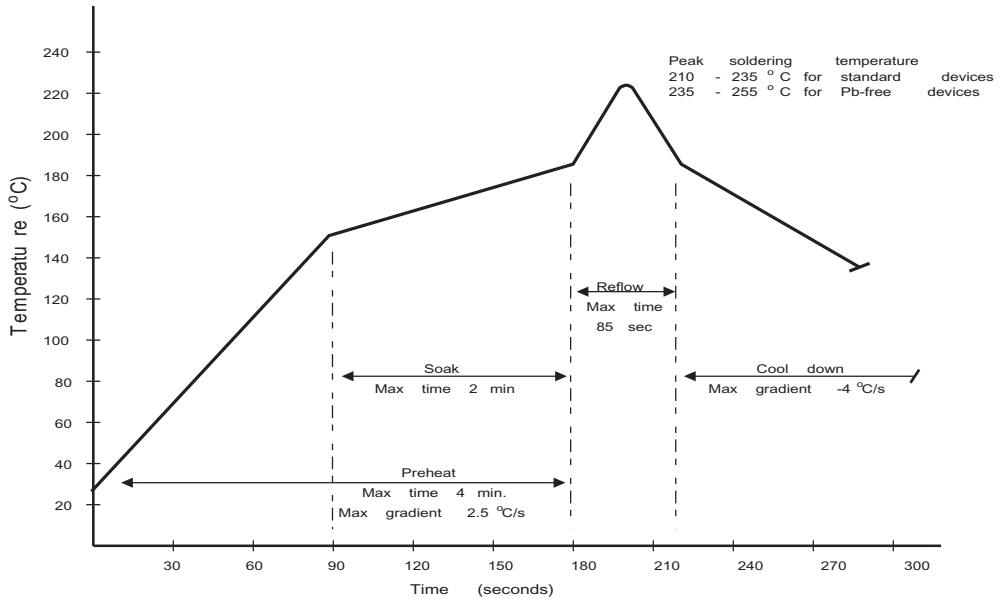


Fig.2 Typical IR Reflow Soldering Thermal Profile