

1ZC12~1ZC120

CONSTANT VOLTAGE REGULATION
TELEPHONE, PRINTER USES

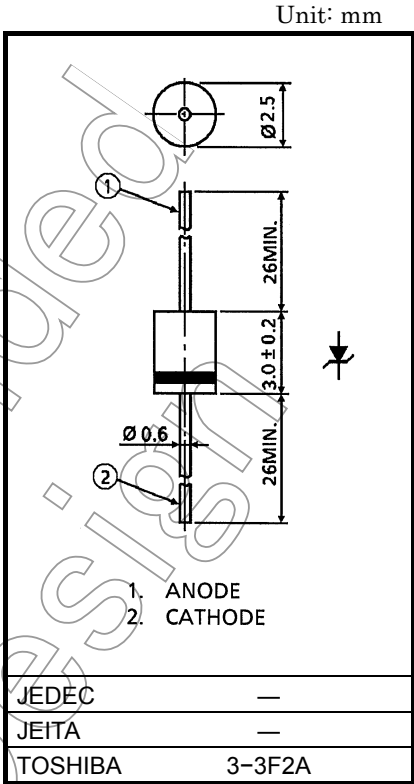
- Average Power Dissipation : P = 1.0W
- Zener Voltage : V_Z = 12 V to 120 V
- Tolerance of Zener Voltage (V_Z) : ±10%
- Plastic Mold Package

ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P	1.0	W
Junction Temperature	T _j	-40 to 150	°C
Storage Temperature Range	T _{stg}	-40 to 150	°C

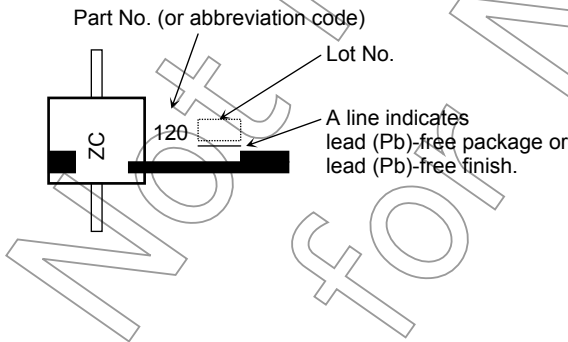
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.18g (Typ.)

MARKING



Abbreviation Code	Part No.
ZC120	1ZC120

ELECTRICAL CHARACTERISTICS (Ta=25°C)

TYPE	ZENER CHARACTERISTICS					TEMPERATURE COEFFICIENT OF ZENER VOLTAGE α_T (mV / °C)		FORWARD VOLTAGE		REVERSE CURRENT	
	ZENER VOLTAGE V_Z (V)			ZENER IMPEDANCE r_d (Ω)	MEASURE- MENT CURRENT I_Z (mA)			V_F (V)	MEASURE- MENT CURRENT I_F (A)	I_R (μ A)	MEASURE- MENT VOLTAGE V_R (V)
	MIN.	TYP.	MAX.			MAX.	TYP.				
1ZC12	10.8	12	13.2	30	10	8	13	1.2	0.2	10	8.0
1ZC13	11.7	13	14.3	30	10	9	14	1.2	0.2	10	9.0
1ZC15	13.5	15	16.5	30	10	11	17	1.2	0.2	10	10.0
1ZC16	14.4	16	17.6	30	10	12	19	1.2	0.2	10	11.0
1ZC18	16.2	18	19.8	30	10	14	23	1.2	0.2	10	13.0
1ZC20	18.0	20	22.0	30	10	16	26	1.2	0.2	10	14.0
1ZC22	19.8	22	24.2	30	10	18	28	1.2	0.2	10	16.0
1ZC24	21.6	24	26.4	30	10	20	32	1.2	0.2	10	17.0
1ZC27	24.3	27	29.7	30	10	23	36	1.2	0.2	10	19.0
1ZC30	27.0	30	33.0	30	10	25	40	1.2	0.2	10	21.0
1ZC33	29.7	33	36.3	30	10	26	41	1.2	0.2	10	26.4
1ZC36	32.4	36	39.6	30	9	28	45	1.2	0.2	10	28.8
1ZC39	35.1	39	42.9	35	8	30	48	1.2	0.2	10	31.2
1ZC43	38.7	43	47.3	40	7	33	53	1.2	0.2	10	34.4
1ZC47	42.3	47	51.7	65	6	38	60	1.2	0.2	10	37.6
1ZC51	45.9	51	56.1	65	6	43	68	1.2	0.2	10	40.8
1ZC56	50.4	56	61.6	85	5	48	77	1.2	0.2	10	44.8
1ZC62	55.8	62	68.2	105	5	53	85	1.2	0.2	10	49.6
1ZC68	61.2	68	74.8	120	4	57	90	1.2	0.2	10	54.4
1ZC75	67.5	75	82.5	150	4	66	104	1.2	0.2	10	60.0
1ZC82	73.8	82	90.2	170	3	71	113	1.2	0.2	10	65.4
1ZC91	81.9	91	100.1	240	3	79	127	1.2	0.2	10	72.8
1ZC100	90.0	100	110.0	300	3	87	138	1.2	0.2	10	80.0
1ZC110	99.0	110	121.0	300	3	96	152	1.2	0.2	10	88.0
1ZC120	108.0	120	132.0	350	2.5	106	171	1.2	0.2	10	96.0

Handling Precaution

The absolute maximum ratings denote the absolute maximum ratings, which are rated values and must not be exceeded during operation, even for an instant. The following are the general derating methods that we recommend when you design a circuit with a device.

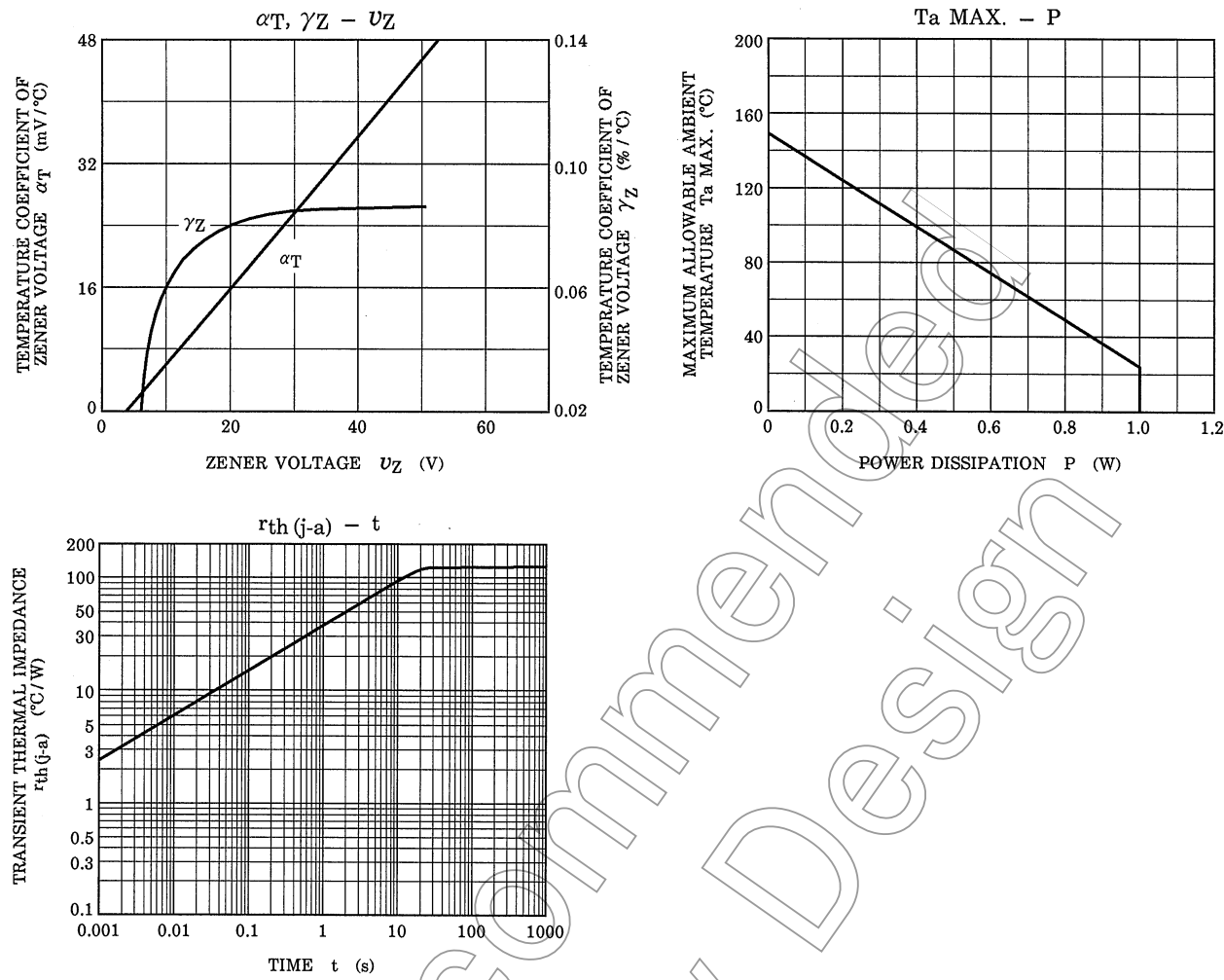
- P: We recommend that the worst case power dissipation be no greater than 50% of the absolute maximum rating of power dissipation. Carry out adequate heat design.
- T_j: Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_j of below 120°C.

Thermal resistance between junction and ambient fluctuates depending on the device's mounting condition. When using a device, design a circuit board and a soldering land size to match the appropriate thermal resistance value.

Organic silicon is used as encapsulation material for this product, which is resin seal product. Therefore, it is difficult to seal siloxane coming from silicone completely in this product. When using this product, please consider above.

Please refer to the Rectifiers databook for further information.

Not Recommended
for New Design



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