

TOSHIBA ZENER DIODE SILICON DIFFUSED TYPE

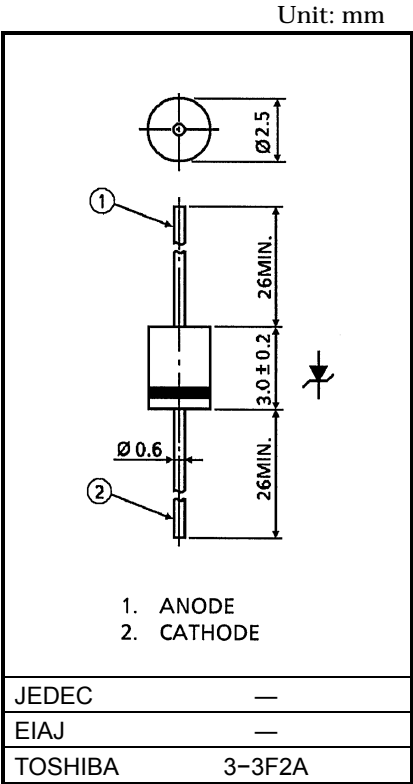
1ZC12A~1ZC120A

CONSTANT VOLTAGE REGULATION  
TELEPHONE, PRINTER USES

- Average Power Dissipation : P=1.0W
- Zener Voltage : V<sub>Z</sub>=12~120V
- Tolerance of Zener Voltage (V<sub>Z</sub>) : ±5%
- Plastic Mold Package

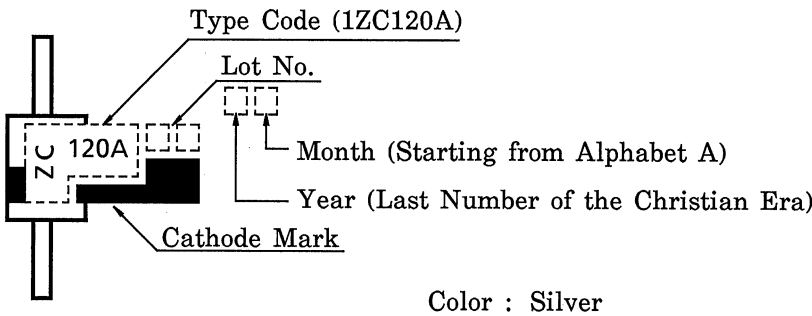
MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P	1.0	W
Junction Temperature	T <sub>j</sub>	-40~150	°C
Storage Temperature Range	T <sub>stg</sub>	-40~150	°C



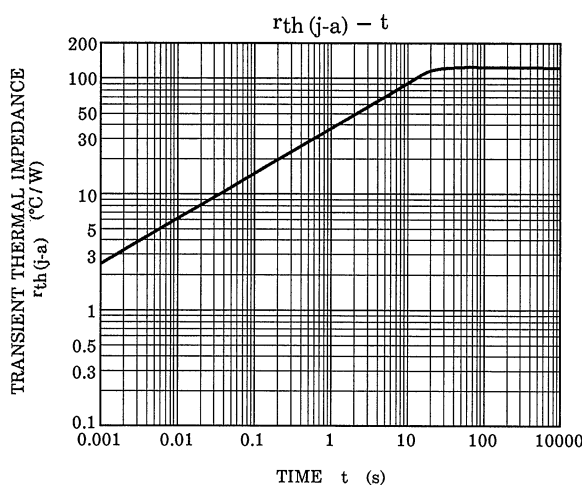
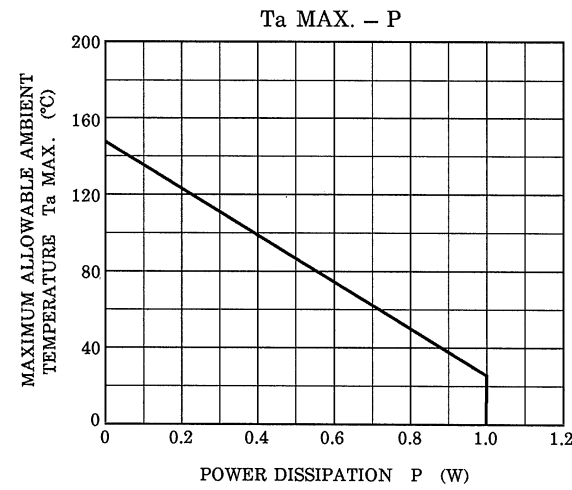
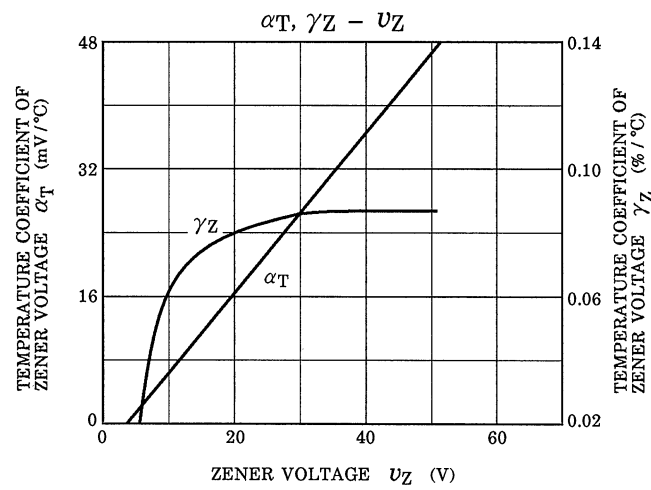
Weight: 0.18g (Typ.)

MARK



**ELECTRICAL CHARACTERISTICS (Ta=25°C)**

TYPE	ZENER CHARACTERISTICS					TEMPERATURE COEFFICIENT OF ZENER VOLTAGE α <sub>T</sub> (mV / °C)		FORWARD VOLTAGE  V <sub>F</sub> (V)		REVERSE CURRENT  I <sub>R</sub> (μA)	
	ZENER VOLTAGE  V <sub>Z</sub> (V)			ZENER IMPEDANCE r <sub>d</sub> (Ω)	MEASURE- MENT CURRENT  I <sub>Z</sub> (mA)						
	MIN.	TYP.	MAX.			MAX.	TYP.	MAX.	MAX.	MEASURE- MENT CURRENT I <sub>F</sub> (A)	MAX
1ZC12A	11.4	12	12.6	30	10	8	13	1.2	0.2	10	8.0
1ZC13A	12.4	13	13.6	30	10	9	14	1.2	0.2	10	9.0
1ZC15A	14.3	15	15.8	30	10	11	17	1.2	0.2	10	10.0
1ZC16A	15.2	16	16.8	30	10	12	19	1.2	0.2	10	11.0
1ZC18A	17.1	18	18.9	30	10	14	23	1.2	0.2	10	13.0
1ZC20A	19.0	20	21.0	30	10	16	26	1.2	0.2	10	14.0
1ZC22A	20.9	22	23.1	30	10	18	28	1.2	0.2	10	16.0
1ZC24A	22.8	24	25.2	30	10	20	32	1.2	0.2	10	17.0
1ZC27A	25.7	27	28.3	30	10	23	36	1.2	0.2	10	19.0
1ZC30A	28.5	30	31.5	30	10	25	40	1.2	0.2	10	21.0
1ZC33A	31.4	33	34.6	30	10	26	41	1.2	0.2	10	26.4
1ZC36A	34.2	36	37.8	30	9	28	45	1.2	0.2	10	28.8
1ZC39A	37.1	39	40.9	35	8	30	48	1.2	0.2	10	31.2
1ZC43A	40.9	43	45.1	40	7	33	53	1.2	0.2	10	34.4
1ZC47A	44.7	47	49.3	65	6	38	60	1.2	0.2	10	37.6
1ZC51A	48.5	51	53.5	65	6	43	68	1.2	0.2	10	40.8
1ZC56A	53.2	56	58.8	85	5	48	77	1.2	0.2	10	44.8
1ZC62A	58.9	62	65.1	105	5	53	85	1.2	0.2	10	49.6
1ZC68A	64.6	68	71.4	120	4	57	90	1.2	0.2	10	54.4
1ZC75A	71.3	75	78.7	150	4	66	104	1.2	0.2	10	60.0
1ZC82A	77.9	82	86.1	170	3	71	113	1.2	0.2	10	65.4
1ZC91A	81.5	91	95.5	240	3	79	127	1.2	0.2	10	72.8
1ZC100A	95.0	100	105.0	300	3	87	138	1.2	0.2	10	80.0
1ZC110A	104.5	110	115.5	300	3	96	152	1.2	0.2	10	88.0
1ZC120A	114.0	120	126.0	350	2.5	106	171	1.2	0.2	10	96.0



**RESTRICTIONS ON PRODUCT USE**

000707EAA

- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.  
In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent TOSHIBA products specifications. Also, please keep in mind the precautions and conditions set forth in the "Handling Guide for Semiconductor Devices," or "TOSHIBA Semiconductor Reliability Handbook" etc..
- The TOSHIBA products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These TOSHIBA products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury ("Unintended Usage"). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of TOSHIBA products listed in this document shall be made at the customer's own risk.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.