

TOSHIBA ZENER DIODE SILICON DIFFUSED TYPE

# U2Z12~U2Z100

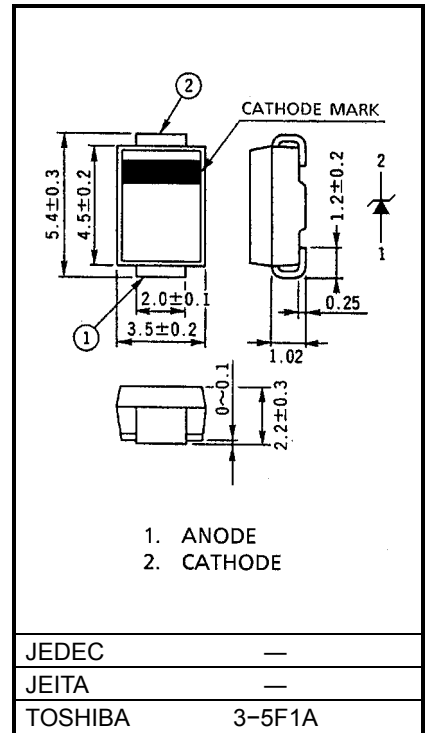
CONSTANT VOLTAGE REGULATION  
 INDUSTRIAL USE  
 TRANSIENT SUPPRESSORS  
 NOISE LIMITTER

- Average Power Dissipation : P = 2 W
- Zener Voltage : VZ = 12~100 V
- Surface Mounting Plastic Mold Package

### MAXIMUM RATINGS (Ta = 25°C)

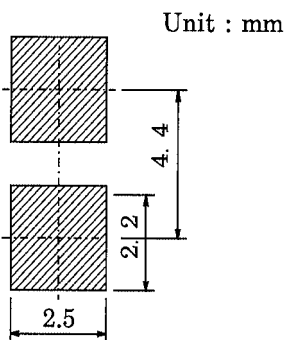
CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P <sub>D</sub>	2.0	W
Junction Temperature	T <sub>j</sub>	-40 ~ 150	°C
Storage Temperature Range	T <sub>stg</sub>	-40 ~ 150	°C

Unit: mm

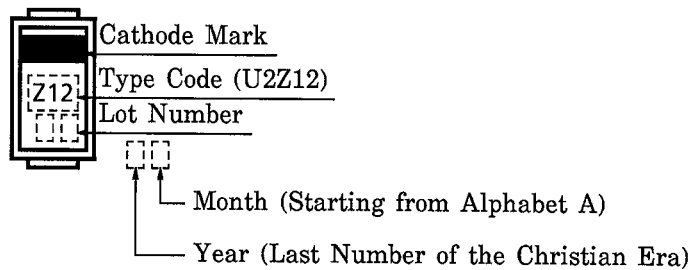


Weight: 0.1g

### STANDARD SOLDERING PAD



### MARKING



## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE	ZENER CHARACTERISTICS					TEMPERATURE COEFFICIENT OF ZENER VOLTAGE $\alpha_T$ (mV / °C)		FORWARD VOLTAGE		REVERSE CURRENT	
	ZENER VOLTAGE $V_Z$ (V)			ZENER IMPEDANCE $r_d$ ( $\Omega$ )	MEASUREMENT CURRENT $I_Z$ (mA)	TYP.	MAX	$V_F$ (V)	MEASUREMENT CURRENT $I_F$ (A)	$I_R$ ( $\mu$ A)	MEASUREMENT VOLTAGE $V_R$ (V)
	MIN	TYP.	MAX	MAX							
U2Z12	10.8	12	13.2	30	10	8	13	1.2	0.2	10	8
U2Z13	11.7	13	14.3	30	10	9	14	1.2	0.2	10	9
U2Z15	13.5	15	16.5	30	10	11	17	1.2	0.2	10	10
U2Z16	14.4	16	17.6	30	10	12	19	1.2	0.2	10	11
U2Z18	16.2	18	19.8	30	10	14	23	1.2	0.2	10	13
U2Z20	18.0	20	22.0	30	10	16	26	1.2	0.2	10	14
U2Z22	19.8	22	24.2	30	10	18	28	1.2	0.2	10	16
U2Z24	21.6	24	26.4	30	10	20	32	1.2	0.2	10	17
U2Z27	24.3	27	29.7	30	10	23	36	1.2	0.2	10	19
U2Z30	27.0	30	33.0	30	10	25	40	1.2	0.2	10	21
U2Z33	29.7	33	36.3	30	10	26	41	1.2	0.2	10	26.4
U2Z36	32.4	36	39.6	30	9	28	45	1.2	0.2	10	28.8
U2Z43	38.7	43	47.3	40	7	33	53	1.2	0.2	10	34.4
U2Z47	42.3	47	51.7	65	6	38	60	1.2	0.2	10	37.6
U2Z51	45.9	51	56.1	65	6	43	68	1.2	0.2	10	40.8
U2Z68	61.2	68	74.8	120	4	57	90	1.2	0.2	10	54.4
U2Z75	67.5	75	82.5	150	4	66	104	1.2	0.2	10	60
U2Z82	73.8	82	90.2	170	3	71	113	1.2	0.2	10	65.4
U2Z100	90	100	110	300	3	87	138	1.2	0.2	10	80

**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.