

TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

02DZ2.0~02DZ24

CONSTANT VOLTAGE REGULATION APPLICATIONS.

REFERENCE VOLTAGE APPLICATIONS.

- Small Package
- Nominal voltage tolerance about $\pm 2.5\%$
(2.0V~24V)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P*	200	mW
Junction Temperature	T _j	125	°C
Storage Temperature Range	T _{stg}	-55~125	°C

* Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

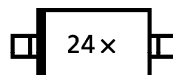
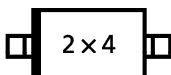
ELECTRICAL CHARACTERISTICS

(See Page 2~3)

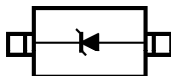
Marking

Example 1 : 02DZ2.4-x

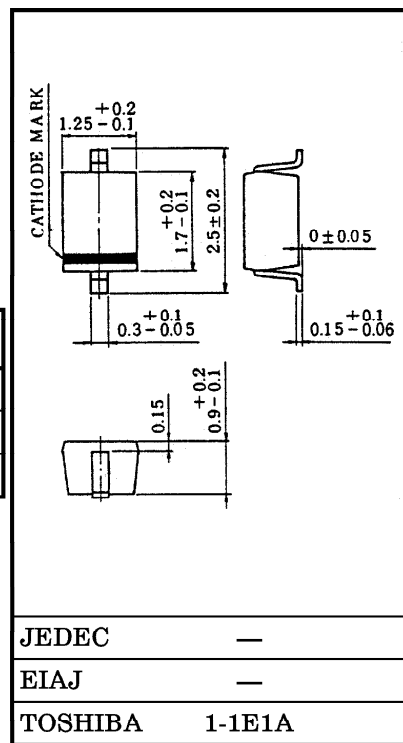
Example 2 : 02DZ24-x



PIN ASSIGNMENT (TOP VIEW)



Unit in mm



Weight : 4.5mg

961001EAA2

- TOSHIBA is continually working to improve the quality and the 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 observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product 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 products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- 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.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE			DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V _Z (V)		I _Z (mA)	Z _Z (Ω)	I _Z (mA)	Z _{Zk} (Ω)	I _Z (mA)	I _R (μA)	V _R (V)
		MIN.	MAX.		MAX.		MAX.			
02DZ2.0**	X	1.85	2.05	5	100	5	1000	0.5	120	0.5
	Z	1.95	2.15							
02DZ2.2**	X	2.05	2.26	5	100	5	1000	0.5	120	1.0
	Z	2.16	2.38							
02DZ2.4	X	2.28	2.50	5	100	5	1000	0.5	120	1.0
	Z	2.40	2.60							
02DZ2.7	X	2.50	2.75	5	110	5	1000	0.5	120	1.0
	Z	2.65	2.90							
02DZ3.0	X	2.80	3.05	5	120	5	1000	0.5	50	1.0
	Z	2.95	3.20							
02DZ3.3	X	3.10	3.35	5	130	5	1000	0.5	20	1.0
	Z	3.25	3.50							
02DZ3.6	X	3.40	3.65	5	130	5	1000	0.5	10	1.0
	Z	3.55	3.80							
02DZ3.9	X	3.70	3.97	5	130	5	1000	0.5	10	1.0
	Z	3.87	4.10							
02DZ4.3	X	4.00	4.23	5	130	5	1000	0.5	5	1.0
	Y	4.13	4.35							
	Z	4.25	4.50							
02DZ4.7	X	4.40	4.63	5	120	5	1000	0.5	5	1.0
	Y	4.53	4.76							
	Z	4.66	4.90							
02DZ5.1	X	4.80	5.07	5	70	5	1000	0.5	1	1.5
	Y	4.97	5.24							
	Z	5.14	5.40							
02DZ5.6	X	5.30	5.63	5	40	5	900	0.5	1	2.5
	Y	5.43	5.81							
	Z	5.61	6.00							
02DZ6.2	X	5.80	6.20	5	30	5	500	0.5	1	3.0
	Y	6.00	6.39							
	Z	6.19	6.60							

* : Test time : t=30ms
 ** : Product by order.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE			DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V _Z (V)		I _Z (mA)	Z _Z (Ω)	I _Z (mA)	Z _{Zk} (Ω)	I _Z (mA)	I _R (μA)	V _R (V)
		MIN.	MAX.		MAX.		MAX.		MAX.	
02DZ6.8	X	6.40	6.80	5	25	5	150	0.5	0.5	5.0
	Y	6.60	7.02							
	Z	6.82	7.20							
02DZ7.5	X	7.00	7.43	5	23	5	120	0.5	0.5	6.0
	Y	7.23	7.66							
	Z	7.46	7.90							
02DZ8.2	X	7.70	8.16	5	20	5	120	0.5	0.5	6.5
	Y	7.96	8.43							
	Z	8.23	8.70							
02DZ9.1	X	8.50	9.00	5	18	5	120	0.5	0.5	7.0
	Y	8.80	9.30							
	Z	9.10	9.60							
02DZ10	X	9.40	9.93	5	15	5	120	0.5	0.5	8.0
	Y	9.73	10.26							
	Z	10.06	10.60							
02DZ11	X	10.40	10.98	5	15	5	120	0.5	0.5	8.5
	Y	10.73	11.26							
	Z	11.06	11.60							
02DZ12	X	11.40	11.93	5	15	5	110	0.5	0.5	9.0
	Y	11.73	12.26							
	Z	12.06	12.60							
02DZ13	X	12.40	13.08	5	15	5	110	0.5	0.5	10
	Y	12.88	13.57							
	Z	13.37	14.10							
02DZ15	X	13.80	14.63	5	15	5	110	0.5	0.5	11
	Y	14.33	15.11							
	Z	14.81	15.60							
02DZ16	X	15.30	16.10	5	18	5	150	0.5	0.5	12
	Y	15.80	16.60							
	Z	16.30	17.10							
02DZ18	X	16.80	17.76	5	20	5	150	0.5	0.5	14
	Y	17.46	18.43							
	Z	18.13	19.10							

* : Test time : t=30ms

** : Product by order.

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE			DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V _Z (V)		I _Z (mA)	Z _Z (Ω)	I _Z (mA)	Z _{Zk} (Ω)	I _Z (mA)	I _R (μA)	V _R (V)
		MIN.	MAX.		MAX.		MAX.			
02DZ20	X	18.80	19.78	5	25	5	200	0.5	0.5	15
	Y	19.48	20.46							
	Z	20.16	21.20							
02DZ22	X	20.80	21.88	5	30	5	200	0.5	0.5	17
	Y	21.48	22.56							
	Z	22.16	23.30							
02DZ24	X	22.80	24.11	5	40	5	200	0.5	0.5	19
	Y	23.61	24.92							
	Z	24.42	25.60							

* : Test time : t=30ms

** : Product by order.

