

9097250 TOSHIBA (DISCRETE/OPTO)

67C 09268 DT-11-07

Silicon Planar Type
Zener Diode

02CZ2.0 ~ 02CZ24

CONSTANT VOLTAGE REGULATION APPLICATIONS.
REFERENCE VOLTAGE APPLICATIONS.

FEATURES:

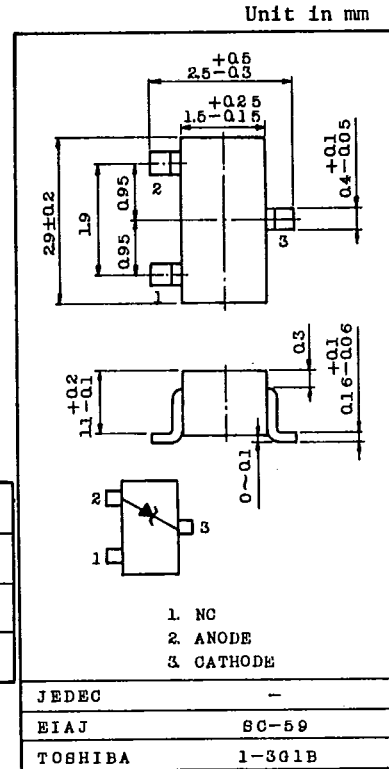
- . Small Package : SC-59
- . Nominal Voltage Tolerance About $\pm 2.5\%$

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{stg}	-55 ~ 150	°C

ELECTRICAL CHARACTERISTICS

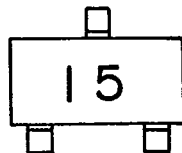
(See Page 2 ~ 4)



Weight : 0.013g

MARKING

Example : 02CZ15



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02CZ2.0~02CZ24

ELECTRICAL CHARACTERISTICS (Ta=25°C)

TYPE		ZENER VOLTAGE (Note 1)		DYNAMIC IMPEDANCE (Note 2)		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE		ZENER CURRENT I _Z (mA)	REVERSE CURRENT	
		V _Z (V)		Z _Z (Ω)		r _Z (%/°C)			I _R (μA)	V _R (V)
		MIN.	MAX.	TYP.	MAX.	TYP.	MAX.			
02CZ2.0 (Note 3)	X	1.82	1.98	60	120	-0.083	-0.108	5	120	1.0
	Y	1.88	2.04							
	Z	1.94	2.10							
02CZ2.2 (Note 3)	X	2.00	2.17	65	130	-0.083	-0.108	5	120	1.0
	Y	2.07	2.24							
	Z	2.14	2.31							
02CZ2.4	X	2.21	2.38	70	140	-0.082	-0.107	5	120	1.0
	Y	2.28	2.46							
	Z	2.36	2.54							
02CZ2.7	X	2.44	2.62	80	160	-0.082	-0.107	5	50	1.0
	Y	2.52	2.70							
	Z	2.60	2.79							
02CZ3.0	X	2.69	2.88	85	170	-0.082	-0.107	5	20	1.0
	Y	2.78	2.97							
	Z	2.87	3.06							
02CZ3.3	X	2.96	3.16	90	180	-0.079	-0.103	5	10	1.0
	Y	3.06	3.26							
	Z	3.16	3.37							
02CZ3.6	X	3.27	3.48	90	180	-0.072	-0.094	5	10	1.0
	Y	3.38	3.59							
	Z	3.49	3.70							
02CZ3.9	X	3.60	3.82	85	170	-0.064	-0.083	5	10	1.0
	Y	3.72	3.94							
	Z	3.84	4.07							
02CZ4.3	X	3.97	4.20	80	160	-0.053	-0.069	5	5	1.0
	Y	4.10	4.34							
	Z	4.24	4.47							

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02CZ2.0~02CZ24

TYPE		ZENER VOLTAGE (Note 1) V_Z (V)		DYNAMIC IMPEDANCE (Note 2) Z_Z (Ω)		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE r_Z (%/°C)		ZENER CURRENT I_Z (mA)	REVERSE CURRENT	
		MIN.	MAX.	TYP.	MAX.	TYP.	MAX.		I_R (μ A)	V_R (V)
02CZ4.7	X	4.37	4.62	60	120	-0.039	-0.051	5	5	1.0
	Y	4.52	4.77							
	Z	4.67	4.92							
02CZ5.1	X	4.82	5.08	35	70	-0.015	-0.030 +0.010	5	1.0	1.5
	Y	4.98	5.24							
	Z	5.14	5.41							
02CZ5.6	X	5.31	5.58	15	40	0.015	+0.030 -0.010	5	1.0	2.0
	Y	5.48	5.76							
	Z	5.66	5.95							
02CZ6.2	X	5.85	6.14	8	30	0.034	0.044	5	1.0	3.0
	Y	6.03	6.34							
	Z	6.23	6.55							
02CZ6.8	X	6.43	6.76	7	25	0.044	0.057	5	0.5	5.0
	Y	6.64	6.98							
	Z	6.86	7.21							
02CZ7.5	X	7.08	7.44	6	23	0.050	0.065	5	0.5	6.0
	Y	7.31	7.69							
	Z	7.55	7.94							
02CZ8.2	X	7.79	8.19	5	20	0.055	0.072	5	0.5	6.5
	Y	8.05	8.46							
	Z	8.31	8.74							
02CZ9.1	X	8.58	9.02	4	18	0.059	0.077	5	0.5	7.0
	Y	8.86	9.31							
	Z	9.15	9.61							
02CZ10	X	9.44	9.93	4	15	0.064	0.083	5	0.5	8.0
	Y	9.75	10.25							
	Z	10.07	10.58							

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9097250 TOSHIBA (DISCRETE/OPTO)

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02CZ2.0~02CZ24

TYPE		ZENER VOLTAGE (Note 1)		DYNAMIC IMPEDANCE (Note 2)		TEMPERATURE COEFFICIENT OF ZENER VOLTAGE		ZENER CURRENT I _Z (mA)	REVERSE CURRENT	
		V _Z (V)		Z _Z (Ω)		r _Z (%/°C)			I _R (μA)	V _R (V)
		MIN.	MAX.	TYP.	MAX.	TYP.	MAX.	MAX.		
02CZ11	X	10.39	10.93	4	15	0.066	0.086	5	0.5	8.5
	Y	10.73	11.28							
	Z	11.08	11.65							
02CZ12	X	11.44	12.03	3	15	0.068	0.088	5	0.5	9.0
	Y	11.81	12.42							
	Z	12.20	12.82							
02CZ13	X	12.59	13.24	3	15	0.070	0.091	5	0.5	10
	Y	13.00	13.67							
	Z	13.42	14.11							
02CZ15	X	13.86	14.57	3	15	0.072	0.094	5	0.5	11
	Y	14.31	15.05							
	Z	14.78	15.53							
02CZ16	X	15.26	16.04	3	18	0.074	0.096	5	0.5	12
	Y	15.75	16.56							
	Z	16.26	17.10							
02CZ18	X	16.79	17.65	4	20	0.076	0.099	5	0.5	14
	Y	17.34	18.23							
	Z	17.90	18.82							
02CZ20	X	18.48	19.43	5	25	0.078	0.101	5	0.5	15
	Y	19.08	20.06							
	Z	19.70	20.7							
02CZ22	X	20.3	21.4	6	30	0.080	0.104	5	0.5	17
	Y	21.0	22.1							
	Z	21.7	22.8							
02CZ24	X	22.4	23.5	8	40	0.082	0.107	5	0.5	19
	Y	23.1	24.3							
	Z	23.9	25.1							

Note 1 : Test time : t=30ms

3 : Product by order

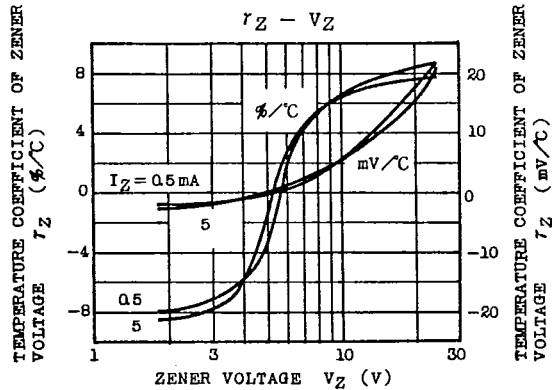
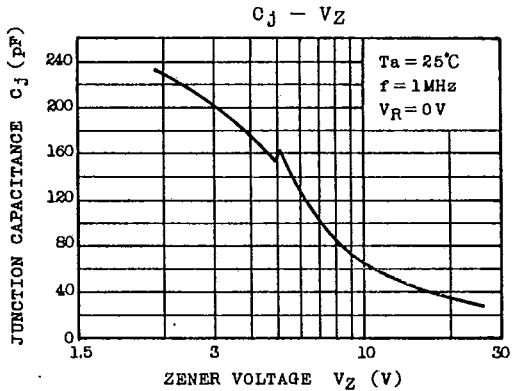
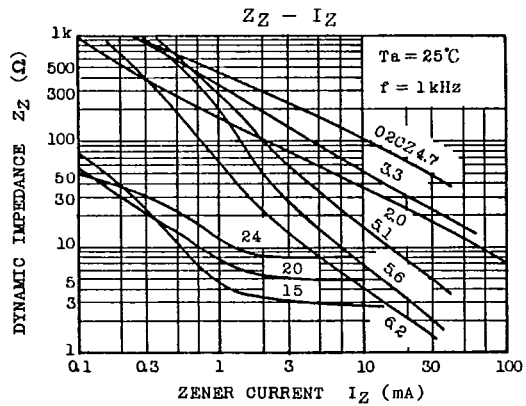
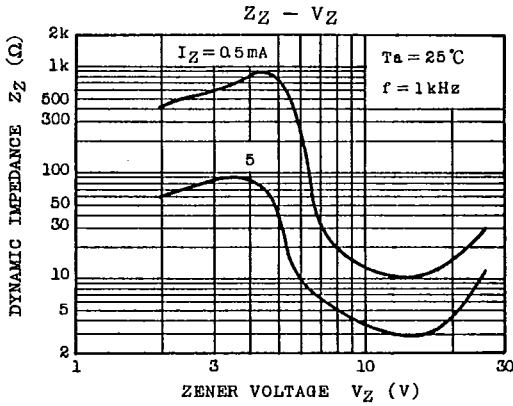
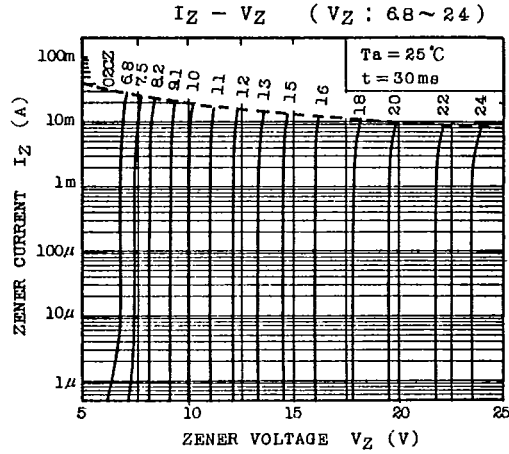
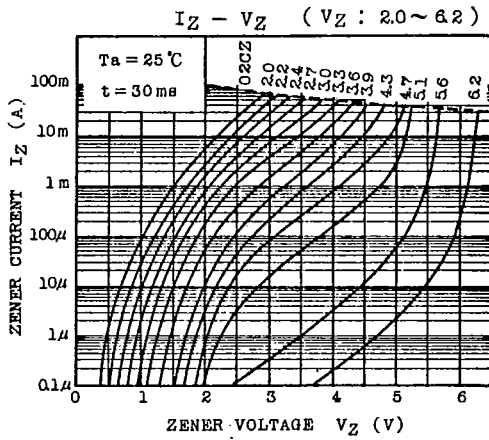
2 : Test frequency : f=1kHz

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