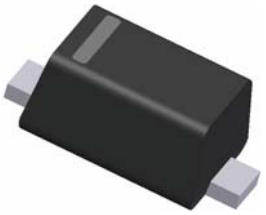
TAK CHEONG®

SEMICONDUCTOR

200mW SOD-523 SURFACE MOUNT

Very Small Outline Flat Lead Plastic Package Zener Voltage Regulators

Green Product



SOD-523 Flat Lead

Absolute Maximum Ratings

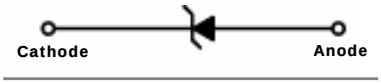
T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	200	mW
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_{OPR}	Operating Temperature Range	-55 to +150	°C

These ratings are limiting values above which the serviceability of the diode may be impaired.

Specification Features:

- Wide Zener Voltage Range Selection, 2.4V to 75V
- Flat Lead SOD-523 Small Outline Plastic Package
- Extremely Small SOD-523 Package
- Surface Device Type Mounting
- RoHS Compliant
- Green EMC
- Matte Tin(Sn) Lead Finish
- Band Indicates Cathode



ELECTRICAL SYMBOL

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max						
TCBZX584C2V4	50	2.2	2.4	2.6	5	100	1	1000	50	1
TCBZX584C2V7	51	2.5	2.7	2.9	5	100	1	1000	20	1
TCBZX584C3V0	52	2.8	3.0	3.2	5	100	1	1000	10	1
TCBZX584C3V3	53	3.1	3.3	3.5	5	95	1	1000	5	1
TCBZX584C3V6	54	3.4	3.6	3.8	5	90	1	1000	5	1
TCBZX584C3V9	55	3.7	3.9	4.1	5	90	1	1000	3	1
TCBZX584C4V3	56	4.0	4.3	4.6	5	90	1	1000	3	1
TCBZX584C4V7	57	4.4	4.7	5.0	5	80	1	800	3	2
TCBZX584C5V1	58	4.8	5.1	5.4	5	60	1	500	2	2
TCBZX584C5V6	59	5.2	5.6	6.0	5	40	1	200	1	2
TCBZX584C6V2	5A	5.8	6.2	6.6	5	10	1	100	3	4
TCBZX584C6V8	5B	6.4	6.8	7.2	5	15	1	160	2	4
TCBZX584C7V5	5C	7.0	7.5	7.9	5	15	1	160	1	5
TCBZX584C8V2	5D	7.7	8.2	8.7	5	15	1	160	0.7	5
TCBZX584C9V1	5E	8.5	9.1	9.6	5	15	1	160	0.2	7
TCBZX584C10V	5F	9.4	10	10.6	5	20	1	160	0.1	8
TCBZX584C11V	5G	10.4	11	11.6	5	20	1	160	0.1	8
TCBZX584C12V	5H	11.4	12	12.7	5	25	1	80	0.1	8
TCBZX584C13V	5J	12.4	13	14.1	5	30	1	80	0.1	8
TCBZX584C15V	5K	14.3	15	15.8	5	30	1	80	0.05	10.5
TCBZX584C16V	5L	15.3	16	17.1	5	40	1	80	0.05	11.2
TCBZX584C18V	5M	16.8	18	19.1	5	45	1	80	0.05	12.6
TCBZX584C20V	5N	18.8	20	21.2	5	55	1	100	0.05	14

Electrical Characteristics

T_A = 25°C unless otherwise noted

Device Type	Device Marking	V_Z @ I_{ZT} (Volts)			I_{ZT} (mA)	Z_{ZT} @ I_{ZT} (Ω) Max	I_{ZK} (mA)	Z_{ZK} @ I_{ZK} (Ω) Max	I_R @ V_R (μA) Max	V_R (Volts)
		Min	Nom	Max						
TCBZX584C22V	5P	20.8	22	23.3	5	55	1	100	0.05	15.4
TCBZX584C24V	5R	22.8	24	25.6	5	70	1	120	0.05	16.8
TCBZX584C27V	5S	25.1	27	28.9	2	80	0.5	300	0.05	18.9
TCBZX584C30V	5T	28	30	32	2	80	0.5	300	0.05	21
TCBZX584C33V	5U	31	33	35	2	80	0.5	300	0.05	23.2
TCBZX584C36V	5V	34	36	38	2	90	0.5	500	0.05	25.2
TCBZX584C39V	5X	37	39	41	2	130	0.5	500	0.05	27.3
TCBZX584C43V	5Y	40	43	46	2	150	0.5	500	0.05	30.1
TCBZX584C47V	5Z	44	47	50	2	170	0.5	500	0.05	32.9
TCBZX584C51V	5−	48	51	54	2	180	0.5	500	0.05	35.7
TCBZX584C56V	5=	52	56	60	2	200	0.5	500	0.05	39.2
TCBZX584C62V	5≡	58	62	66	2	215	0.5	500	0.05	43.4
TCBZX584C68V	5>	64	68	72	2	240	0.5	500	0.05	47.6
TCBZX584C75V	5<	70	75	79	2	255	0.5	500	0.05	52.5

V_F Forward Voltage = 1 V Maximum @ I_F = 10 mA for all types

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10mS.
2. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest Tak Cheong Electronics representative.
3. The zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

RATING AND CHARACTERISTIC CURVES

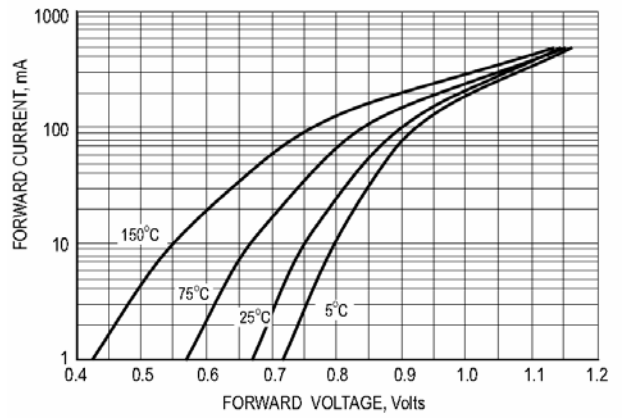


Fig.1 TYPICAL FORWARD VOLTAGE

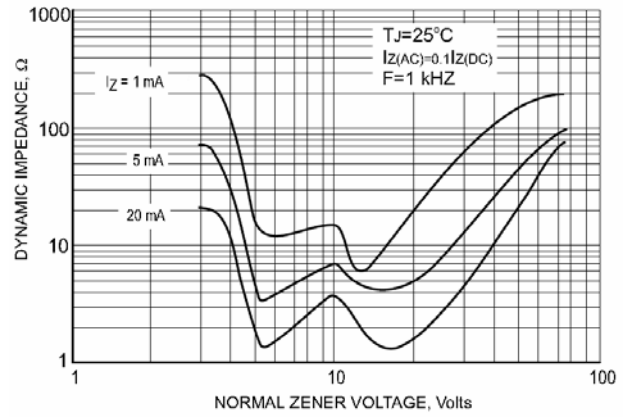


Fig.2 EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE

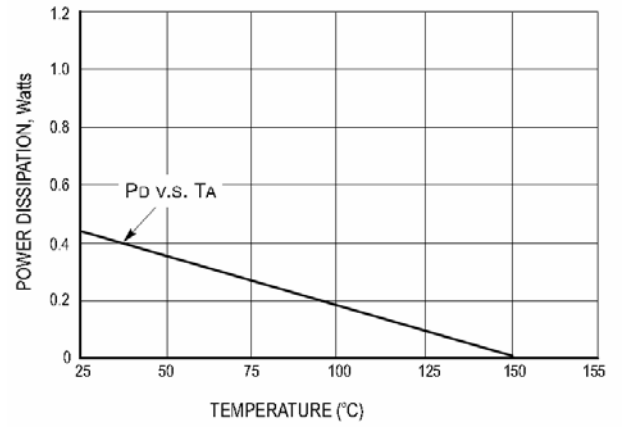


Fig.3 MAXIMUM NONREPETITIVE SURGE

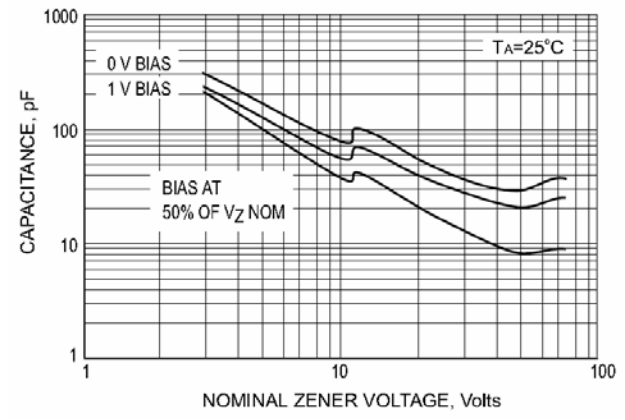


Fig.4 TYPICAL CAPACITANCE

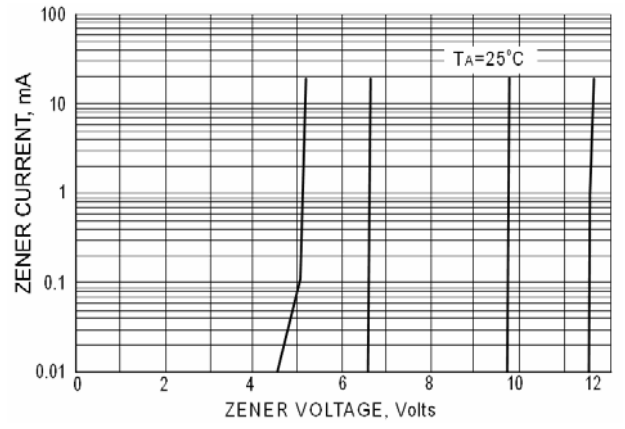


Fig.5 ZENER BREAKDOWN CHARACTERISTICS

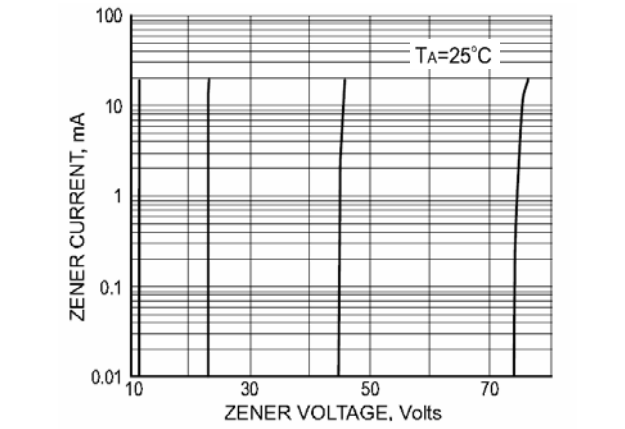


Fig.6 ZENER BREAKDOWN CHARACTERISTICS

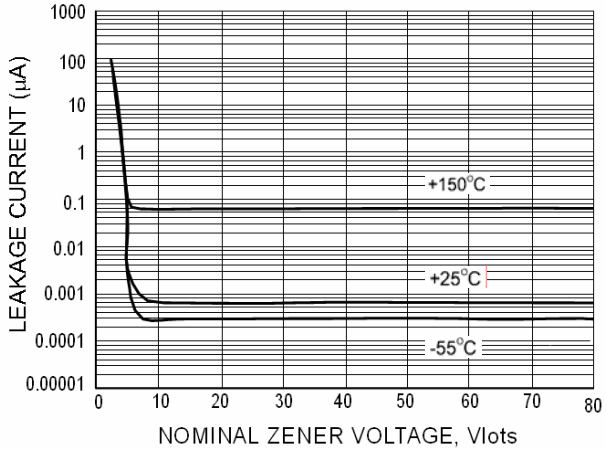
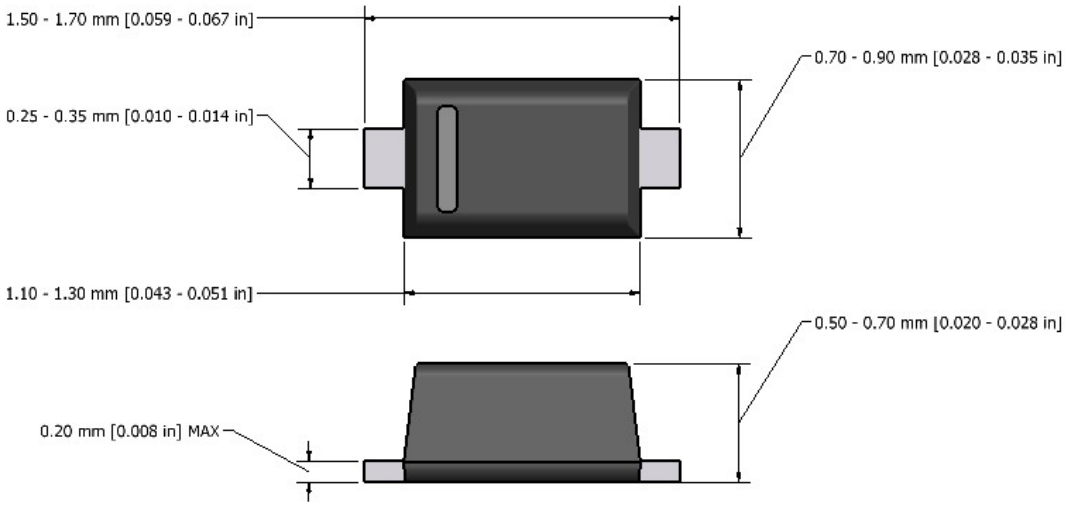


Fig.7 TYPICAL LEAKGE CURRENT

Flat Lead SOD-523 Package Outline



This datasheet presents technical data of Tak Cheong's Zener Diodes. Complete specifications for the individual devices are provided in the form of datasheets. A comprehensive Selector Guide is included to simplify the task of choosing the best set of components required for a specific application. For additional information, please visit our website http://www.takcheong.com.

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