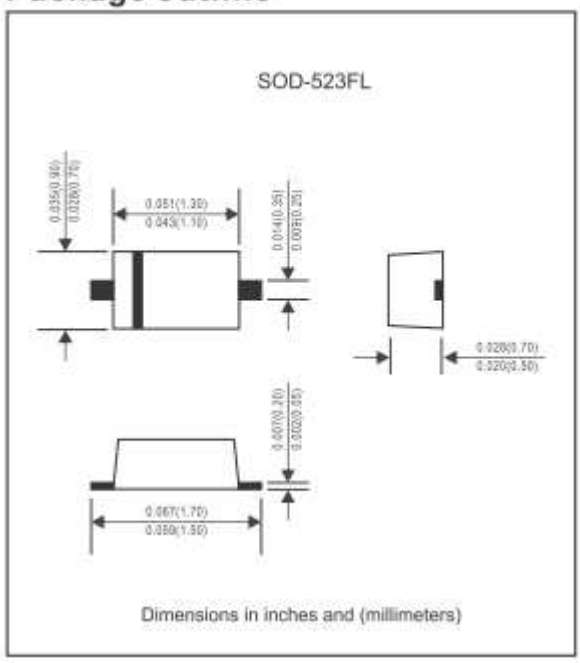
Features

- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.4V to 75V.
- Tiny package size for high density applications.
- Ideally suited for automated assembly processes.
- ESD Rating of Class 3(>16kV)per Human Body Model
- Lead-free parts meet RoHS requirments.
- Suffix "-H" indicates Halogen-free part, ex.ECCZD5Z2VA-H.

Package outline



Mechanical Data

- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-523FL
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Mounting Position : Any
- Weight : Approximated 0.002 gram

Maximum ratings (At T_A=25 °C unless otherwise noted)

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	I_F = 10 mA	V_F			0.9	V
Total Device Dissipation	on FR-5 Board @ TA =25℃	P_D			150	mW
Thermal Resistance from	Junction to ambient	$R_{\theta JA}$		625		℃/W
Operating junction temperature range		T_J	-65		0.5	℃
Storage temperature range		T_{STG}	-65			℃

Electrical characteristics (at T =25 C unless otherwise noted)

Part No.	Marking Code (Note 1)	Zener			Test	Zener impedance			Leakage		θVz (mV/k) @IZT		C J @VR=0V f=1MHz
		Vz @ Izt			Izt	Zzt @ Izt	Zzk @ Izk	Izk	Ir	Vr			
		Min.(V)	Nom.(v)	MAX.(V)	mA	Max.(Ω)	Max.(Ω)	mA	(uA)Max	Volts	Min.	Max.	pF
ZD5Z2V4	00	2.2	2.4	2.6	5	100	1000	1.0	50	1.0	-3.5	0	450
ZD5Z2V7	01	2.5	2.7	2.9	5	100	1000	1.0	20	1.0	-3.5	0	450
ZD5Z3V0	02	2.8	3.0	3.2	5	100	1000	1.0	10	1.0	-3.5	0	450
ZD5Z3V3	05	3.1	3.3	3.5	5	95	1000	1.0	5	1.0	-3.5	0	450
ZD5Z3V6	06	3.4	3.6	3.8	5	90	1000	1.0	5	1.0	-3.5	0	450
ZD5Z3V9	07	3.7	3.9	4.1	5	90	1000	1.0	3	1.0	-3.5	-2.5	450
ZD5Z4V3	08	4.0	4.3	4.6	5	90	1000	1.0	3	1.0	-3.5	0	450
ZD5Z4V7	09	4.4	4.7	5.0	5	80	800	1.0	3	2.0	-3.5	0.2	260
ZD5Z5V1	0A	4.8	5.1	5.4	5	60	500	1.0	2	2.0	-2.7	1.2	225
ZD5Z5V6	0C	5.2	5.6	6.0	5	40	200	1.0	1	2.0	-2.0	2.5	200
ZD5Z6V2	0E	5.8	6.2	6.6	5	10	100	1.0	3	4.0	0.4	3.7	185
ZD5Z6V8	0F	6.4	6.8	7.2	5	15	160	1.0	2	4.0	1.2	4.5	155
ZD5Z7V5	0G	7.0	7.5	7.9	5	15	160	1.0	1	5.0	2.5	5.3	140
ZD5Z8V2	0H	7.7	8.2	8.7	5	15	160	1.0	0.7	5.0	3.2	6.2	135
ZD5Z9V1	0K	8.5	9.1	9.6	5	15	160	1.0	0.2	7.0	3.8	7.0	130
ZD5Z10V	0L	9.4	10	10.6	5	20	160	1.0	0.1	8.0	4.5	8.0	130
ZD5Z11V	0M	10.4	11	11.6	5	20	160	1.0	0.1	8.0	5.4	9.0	130
ZD5Z12V	0N	11.4	12	12.7	5	25	80	1.0	0.1	8.0	6.0	10	130
ZD5Z13V	0P	12.4	13	14.0	5	30	80	1.0	0.1	8.0	7.0	11	120
ZD5Z15V	0T	14.3	15	15.8	5	30	80	1.0	0.05	10.5	9.2	13	110
ZD5Z16V	0U	15.3	16	17.1	5	40	80	1.0	0.05	11.2	10.4	14	105
ZD5Z18V	0W	16.8	18	19.1	5	45	80	1.0	0.05	12.6	12.4	16	100
ZD5Z20V	0Z	18.8	20	21.2	5	55	100	1.0	0.05	14.0	14.4	18	85
ZD5Z22V	10	20.8	22	23.3	5	55	100	1.0	0.05	15.4	16.4	20	85
ZD5Z24V	11	22.8	24	25.6	5	70	120	1.0	0.05	16.8	18.4	22	80
ZD5Z27V	12	25.1	27	28.9	5	80	300	1.0	0.05	18.9	21.4	25.3	70
ZD5Z30V	14	28.0	30	32.0	5	80	300	1.0	0.05	21.0	24.4	29.4	70
ZD5Z33V	18	31.0	33	35.0	5	80	300	1.0	0.05	23.2	27.4	33.4	70
ZD5Z36V	19	34.0	36	38.0	5	90	500	1.0	0.05	25.2	30.4	37.4	70
ZD5Z39V	20	37.0	39	41.0	5	130	500	1.0	0.05	27.3	33.4	41.2	45
ZD5Z43V	21	40.0	43	46.0	5	150	500	1.0	0.05	30.1	37.6	46.6	40
ZD5Z47V	1A	44.0	47	50.0	5	170	500	1.0	0.05	32.9	42.0	51.8	40
ZD5Z51V	1C	48.0	51	54.0	5	180	500	1.0	0.05	35.7	46.6	57.2	40
ZD5Z56V	1D	52.0	56	60.0	5	200	500	1.0	0.05	39.2	52.2	63.8	40
ZD5Z62V	1E	58.0	62	66.0	5	215	500	1.0	0.05	43.4	58.8	71.6	35
ZD5Z68V	1F	64.0	68	72.0	5	240	500	1.0	0.05	47.6	65.6	78.8	35
ZD5Z75V	1G	70.0	75	79.0	5	255	500	1.0	0.05	52.5	73.4	88.6	35

Rating and characteristic curves

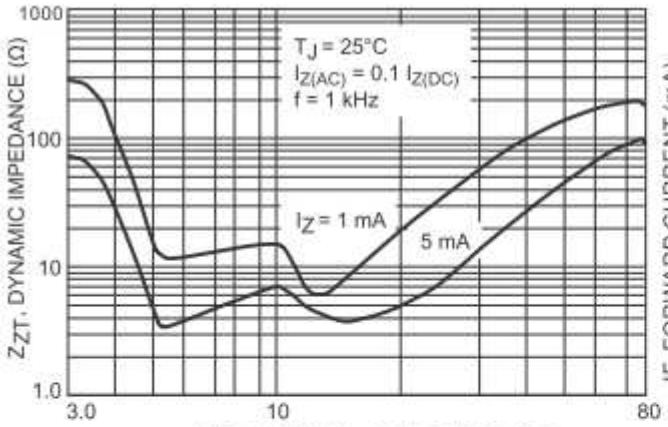


Figure 1. Effect of Zener Voltage on Zener Impedance

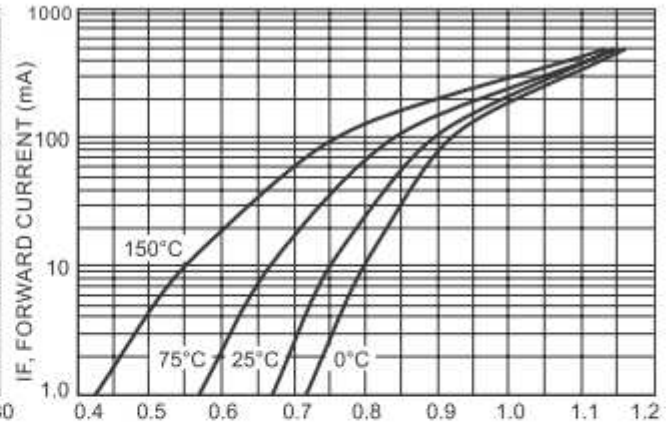


Figure 2. Typical Forward Voltage

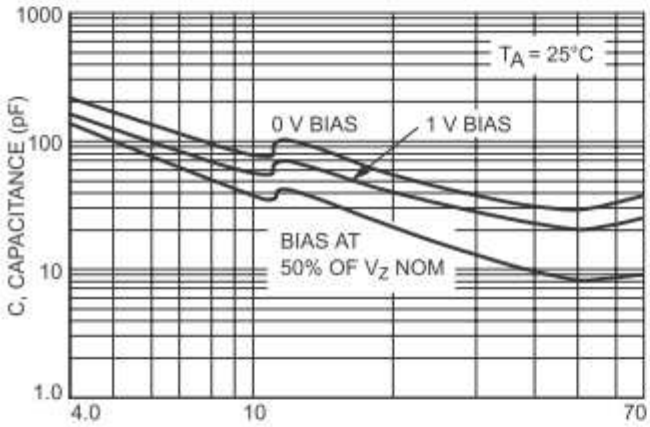


Figure 3. Typical Capacitance

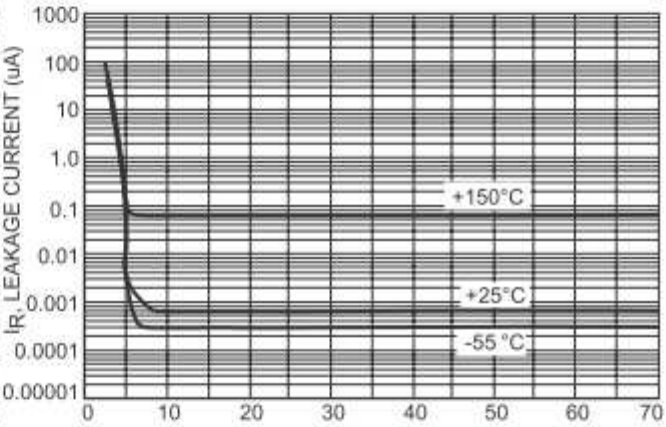


Figure 4. Typical Leakage Current

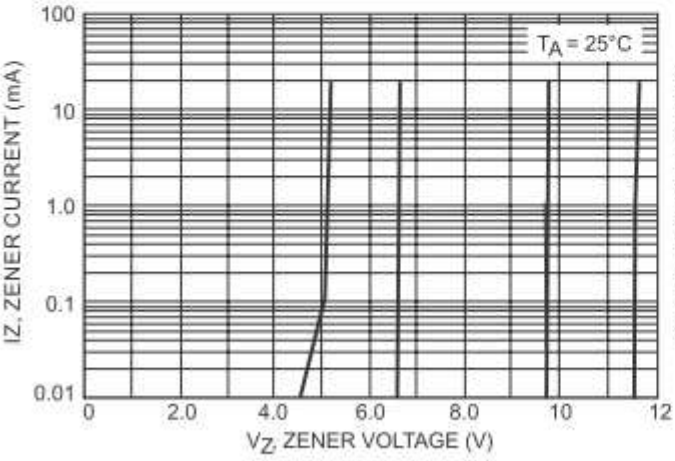


Figure 5. Zener Voltage versus Zener Current (V_Z Up to 12 V)

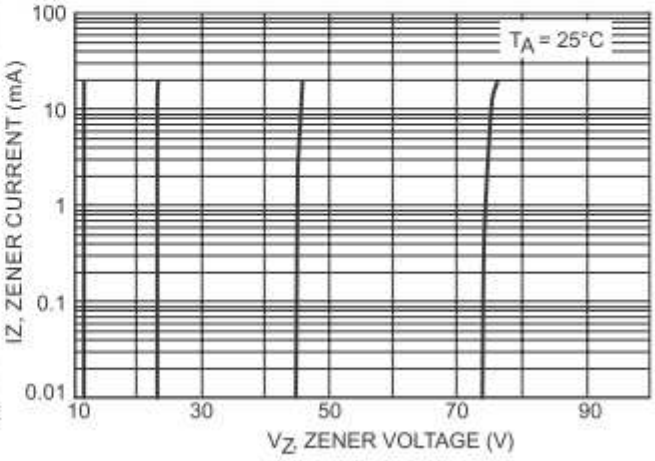


Figure 6. Zener Voltage versus Zener Current (12 V to 75 V)

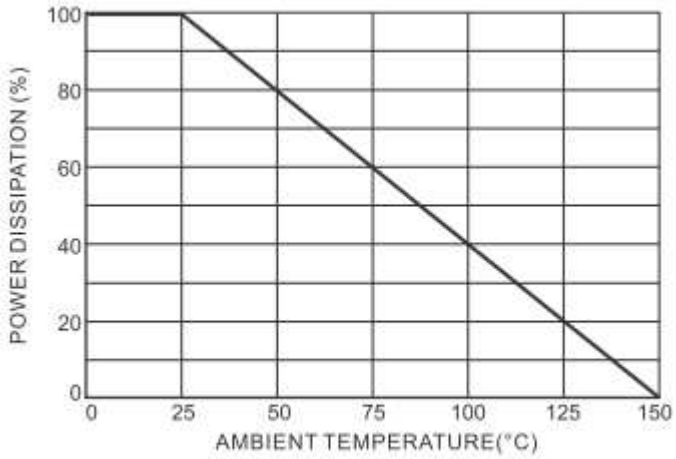
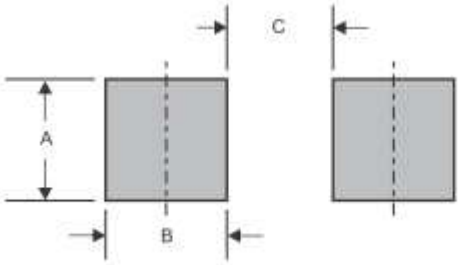


Figure 7. Steady State Power Derating

Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-523FL	0.032 (0.80)	0.024 (0.60)	0.044 (1.10)

Marking

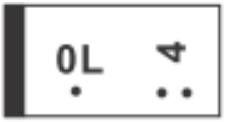


DEV = Marking code (see page 2)

Σ = Month code

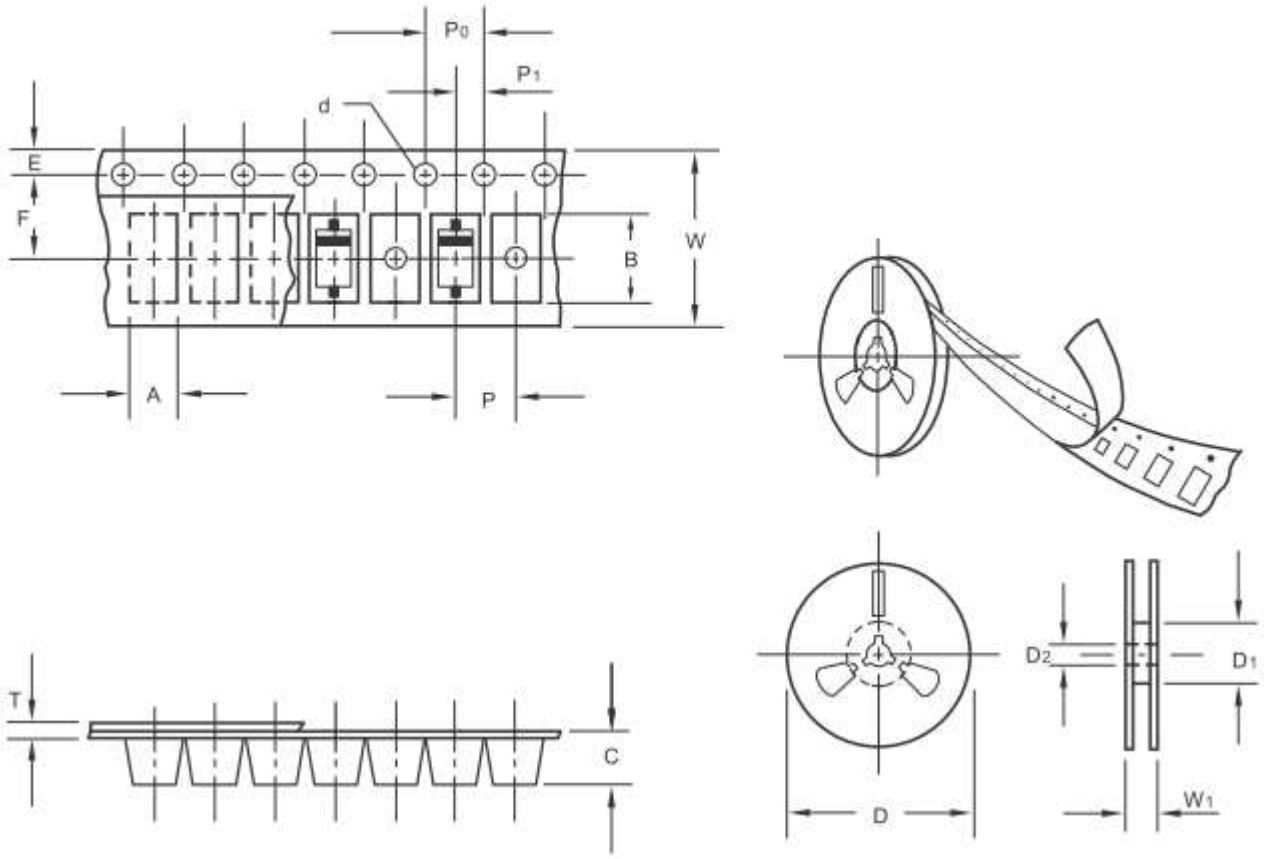
Year \ Month	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Odd	1	2	3	4	5	6	7	8	9	T	V	C
Even	E	F	H	J	K	L	N	P	U	X	Y	Z

EX: ECCZD5Z10V



PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA. (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-523FL	7"	3,000	2.0	30,000	183*183*123	178	382*262*387	240,000	9.5

Packing information



unit:mm

Item	Symbol	Tolerance	SOD-523FL
Carrier width	A	0.1	0.90
Carrier length	B	0.1	1.94
Carrier depth	C	0.1	0.76
Sprocket hole	d	0.1	1.50
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D_1	min	50.00
Feed hole diameter	D_2	0.2	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	2.00
Sprocket hole pitch	P_0	0.1	4.00
Embossment center	P_1	0.1	2.00
Overall tape thickness	T	0.1	0.23
Tape width	W	0.3	8.00
Reel width	W_1	1.0	9.50

Note:Devices are packed in accor dance with EIA standar RS-481-A and specifications listed above.