

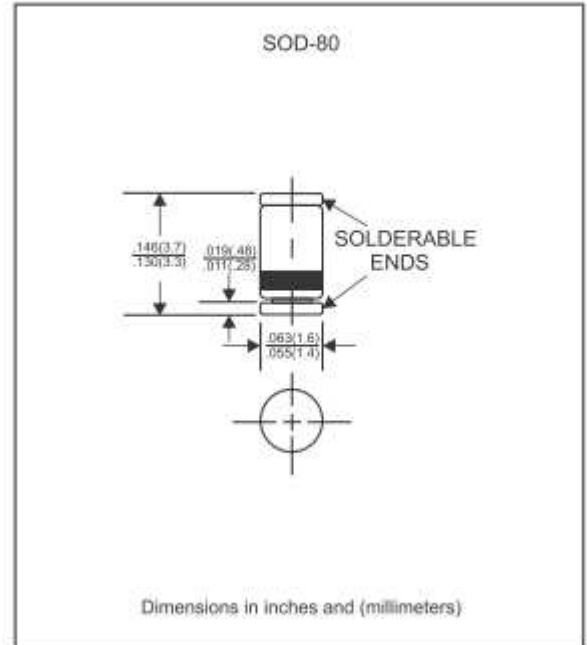
Features

- ◆ Silicon epitaxial planar chip structure.
- ◆ Wide zener reverse voltage range 2.0V to 100V.
- ◆ Small package size for high density applications.
- ◆ Glass hermetically sealed package.
- ◆ Ideally suited for automated assembly processes.
- ◆ 5% tolerance of Zener voltage for suffix "C"
ex: ECCZD55C2V0-H
- ◆ 2% tolerance of Zener voltage for suffix "B"
ex: ECCZD55B2V0-H
- ◆ Lead-free parts meet environmental standards of MIL-STD-19500 /228

Mechanical Data

- ◆ Case : Glass Mini-MELF / SOD-80
- ◆ Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- ◆ Polarity : Indicated by cathode band
- ◆ Mounting Position : Any
- ◆ Weight : Approximated 0.03 gram

Package outline



Maximum ratings (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	MIN.	TYP.	MAX.	UNIT
Forward voltage	$I_F = 200 \text{ mA DC}$	V_F			1.50	V
Power Dissipation		P_D			500	mW
Operating junction temperature range		T_J	-55		+175	$^\circ\text{C}$
Storage temperature range		T_{STG}	-65		+175	$^\circ\text{C}$



**500mW Surface Mount Zener
Diodes - 2.0V-100V**

**ECCZD55C(B)2V0~
ECCZD55C(B)100**

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

Part No.	Zener			Test	Zener impedance			Leakage	
	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
ECCZD55C2V0	1.9	2.0	2.1	5.0	100	600	1.0	150	1.0
ECCZD55C2V2	2.1	2.2	2.3	5.0	100	600	1.0	150	1.0
ECCZD55C2V4	2.2	2.4	2.6	5.0	85	600	1.0	50	1.0
ECCZD55C2V7	2.5	2.7	2.9	5.0	85	600	1.0	10	1.0
ECCZD55C3V0	2.8	3.0	3.2	5.0	85	600	1.0	4.0	1.0
ECCZD55C3V3	3.1	3.3	3.5	5.0	85	600	1.0	2.0	1.0
ECCZD55C3V6	3.4	3.6	3.8	5.0	85	600	1.0	2.0	1.0
ECCZD55C3V9	3.7	3.9	4.1	5.0	85	600	1.0	2.0	1.0
ECCZD55C4V3	4.0	4.3	4.6	5.0	75	600	1.0	1.0	1.0
ECCZD55C4V7	4.4	4.7	5.0	5.0	60	600	1.0	0.5	1.0
ECCZD55C5V1	4.8	5.1	5.4	5.0	35	550	1.0	0.1	1.0
ECCZD55C5V6	5.2	5.6	6.0	5.0	25	450	1.0	0.1	1.0
ECCZD55C6V2	5.8	6.2	6.6	5.0	10	200	1.0	0.1	2.0
ECCZD55C6V8	6.4	6.8	7.2	5.0	8	150	1.0	0.1	3.0
ECCZD55C7V5	7.0	7.5	7.9	5.0	7	50	1.0	0.1	5.0
ECCZD55C8V2	7.7	8.2	8.7	5.0	7	50	1.0	0.1	6.2
ECCZD55C9V1	8.5	9.1	9.6	5.0	10	50	1.0	0.1	6.8
ECCZD55C10	9.4	10	10.6	5.0	15	70	1.0	0.1	7.5
ECCZD55C11	10.4	11	11.6	5.0	20	70	1.0	0.1	8.2
ECCZD55C12	11.4	12	12.7	5.0	20	90	1.0	0.1	9.1
ECCZD55C13	12.4	13	14.1	5.0	26	110	1.0	0.1	10
ECCZD55C15	13.8	15	15.6	5.0	30	110	1.0	0.1	11
ECCZD55C16	15.3	16	17.1	5.0	40	170	1.0	0.1	12
ECCZD55C18	16.8	18	19.1	5.0	50	170	1.0	0.1	13
ECCZD55C20	18.8	20	21.2	5.0	55	220	1.0	0.1	15
ECCZD55C22	20.8	22	23.3	5.0	55	220	1.0	0.1	16
ECCZD55C24	22.8	24	25.6	5.0	80	220	1.0	0.1	18
ECCZD55C27	25.1	27	28.9	5.0	80	220	1.0	0.1	20
ECCZD55C30	28	30	32	5.0	80	220	1.0	0.1	22
ECCZD55C33	31	33	35	5.0	80	220	1.0	0.1	24
ECCZD55C36	34	36	38	5.0	80	220	1.0	0.1	27
ECCZD55C39	37	39	41	2.5	90	500	1.0	0.1	30
ECCZD55C43	40	43	46	2.5	90	600	0.5	0.1	33
ECCZD55C47	44	47	50	2.5	110	700	0.5	0.1	36
ECCZD55C51	48	51	54	2.5	125	700	0.5	0.1	39
ECCZD55C56	52	56	60	2.5	135	1000	0.5	0.1	43
ECCZD55C62	58	62	66	2.5	150	1000	0.5	0.1	47
ECCZD55C68	64	68	72	2.5	200	1000	0.5	0.1	51
ECCZD55C75	70	75	79	2.5	250	1500	0.5	0.1	56
ECCZD55C82	78	82	86	2.5	300	2000	0.5	0.1	62
ECCZD55C91	86	91	96	1.0	450	5000	0.1	0.1	68
ECCZD55C100	95	100	96	1.0	450	5000	0.1	0.1	68



**500mW Surface Mount Zener
Diodes - 2.0V-100V**

**ECCZD55C(B)2V0~
ECCZD55C(B)100**

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

Part No.	Zener			Test	Zener impedance			Leakage	
	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
ECCZD55B2V0	1.96	2.0	2.04	5.0	100	600	1.0	150	1.0
ECCZD55B2V2	2.12	2.2	2.24	5.0	100	600	1.0	150	1.0
ECCZD55B2V4	2.35	2.4	2.45	5.0	85	600	1.0	50	1.0
ECCZD55B2V7	2.65	2.7	2.75	5.0	85	600	1.0	10	1.0
ECCZD55B3V0	2.94	3.0	3.06	5.0	85	600	1.0	4.0	1.0
ECCZD55B3V3	3.23	3.3	3.37	5.0	85	600	1.0	2.0	1.0
ECCZD55B3V6	3.53	3.6	3.67	5.0	85	600	1.0	2.0	1.0
ECCZD55B3V9	3.82	3.9	3.98	5.0	85	600	1.0	2.0	1.0
ECCZD55B4V3	4.21	4.3	4.39	5.0	75	600	1.0	1.0	1.0
ECCZD55B4V7	4.61	4.7	4.79	5.0	60	600	1.0	0.5	1.0
ECCZD55B5V1	5.00	5.1	5.20	5.0	35	550	1.0	0.1	1.0
ECCZD55B5V6	5.49	5.6	5.71	5.0	25	450	1.0	0.1	1.0
ECCZD55B6V2	6.08	6.2	6.32	5.0	10	200	1.0	0.1	2.0
ECCZD55B6V8	6.66	6.8	6.94	5.0	8	150	1.0	0.1	3.0
ECCZD55B7V5	7.35	7.5	7.65	5.0	7	50	1.0	0.1	5.0
ECCZD55B8V2	8.04	8.2	8.36	5.0	7	50	1.0	0.1	6.2
ECCZD55B9V1	8.92	9.1	9.28	5.0	10	50	1.0	0.1	6.8
ECCZD55B10	9.8	10	10.2	5.0	15	70	1.0	0.1	7.5
ECCZD55B11	10.8	11	11.2	5.0	20	70	1.0	0.1	8.2
ECCZD55B12	11.8	12	12.2	5.0	20	90	1.0	0.1	9.1
ECCZD55B13	12.7	13	13.3	5.0	26	110	1.0	0.1	10
ECCZD55B15	14.7	15	15.3	5.0	30	110	1.0	0.1	11
ECCZD55B16	15.7	16	16.3	5.0	40	170	1.0	0.1	12
ECCZD55B18	17.6	18	18.4	5.0	50	170	1.0	0.1	13
ECCZD55B20	19.6	20	20.4	5.0	55	220	1.0	0.1	15
ECCZD55B22	21.6	22	22.4	5.0	55	220	1.0	0.1	16
ECCZD55B24	23.5	24	24.5	5.0	80	220	1.0	0.1	18
ECCZD55B27	26.5	27	27.5	5.0	80	220	1.0	0.1	20
ECCZD55B30	29.4	30	30.6	5.0	80	220	1.0	0.1	22
ECCZD55B33	32.3	33	33.7	5.0	80	220	1.0	0.1	24
ECCZD55B36	35.3	36	36.7	5.0	80	220	1.0	0.1	27
ECCZD55B39	38.2	39	39.8	2.5	90	500	1.0	0.1	30
ECCZD55B43	42.1	43	43.9	2.5	90	600	0.5	0.1	33
ECCZD55B47	46.1	47	47.9	2.5	110	700	0.5	0.1	36
ECCZD55B51	50.0	51	52.0	2.5	125	700	0.5	0.1	39
ECCZD55B56	54.9	56	57.1	2.5	135	1000	0.5	0.1	43
ECCZD55B62	60.8	62	63.2	2.5	150	1000	0.5	0.1	47
ECCZD55B68	66.6	68	69.4	2.5	200	1000	0.5	0.1	51
ECCZD55B75	73.5	75	76.5	2.5	250	1500	0.5	0.1	56
ECCZD55B82	80.4	82	83.6	2.5	300	2000	0.5	0.1	62
ECCZD55B91	89.2	91	92.8	1.0	450	5000	0.1	0.1	68
ECCZD55B100	98	100	102	1.0	450	5000	0.1	0.1	75

Rating and characteristic curves

FIG. 1-TOTAL POWER DISSIPATION VS. AMBIENT TEMPERATURE

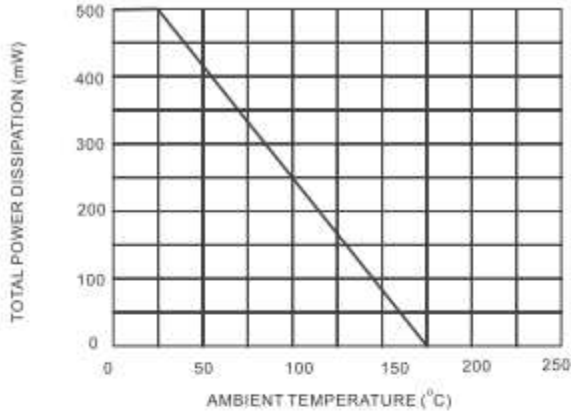


FIG. 2-TYPICAL CHANGE OF WORKING VOLTAGE UNDER OPERATING CONDITIONS AT $T_A = 25^\circ\text{C}$

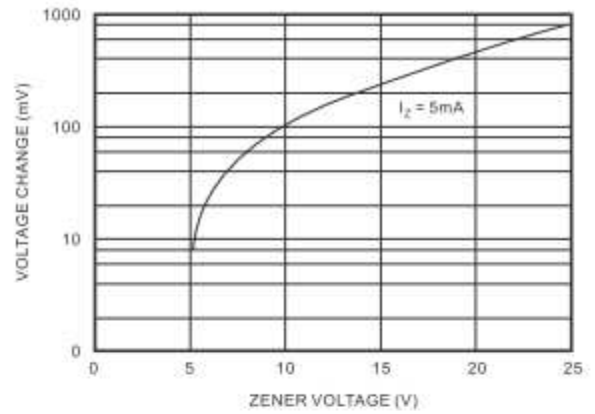


FIG. 3-TYPICAL CHANGE OF WORKING VOLTAGE VS. JUNCTION TEMPERATURE

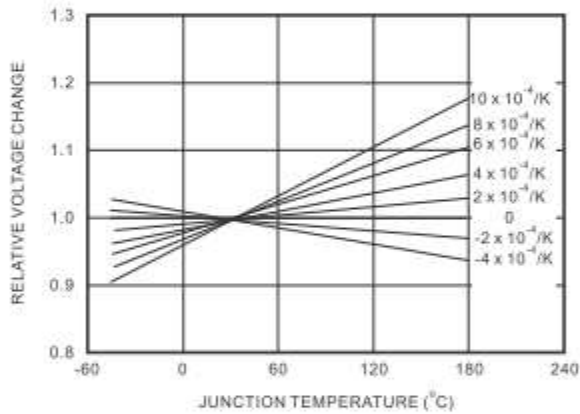


FIG. 4-TEMPERATURE COEFFICIENT OF VZ VS. Z-VOLTAGE

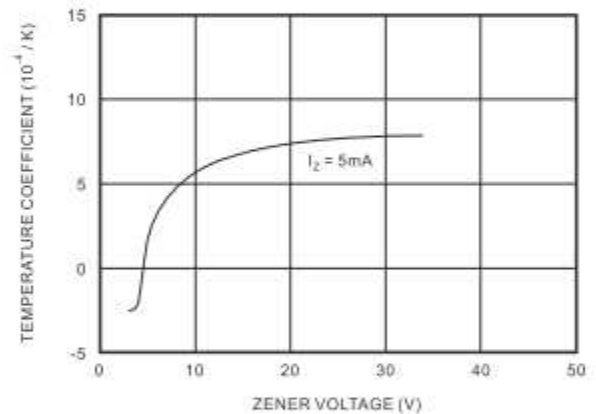


FIG. 5-DIODE CAPACITANCE VS. Z-VOLTAGE

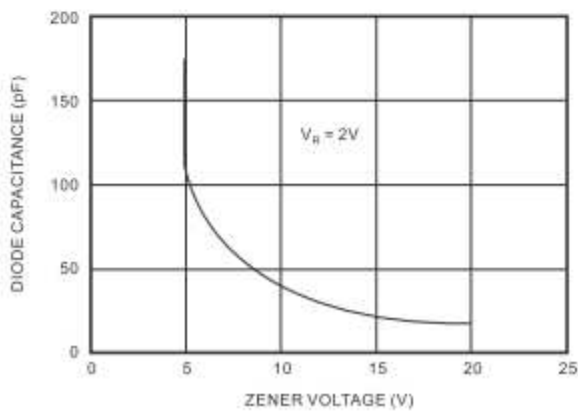


FIG. 6-FORWARD CURRENT VS. FORWARD VOLTAGE

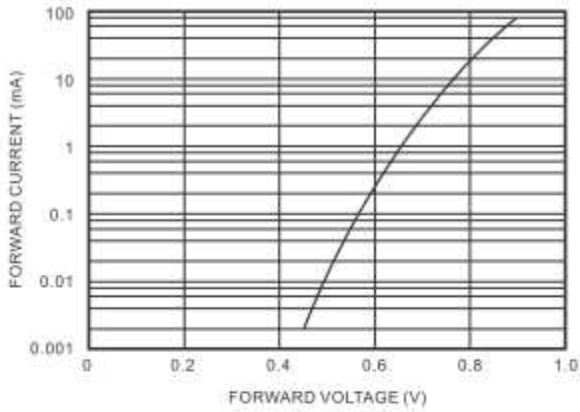


FIG. 7-Z-CURRENT VS. Z-VOLTAGE

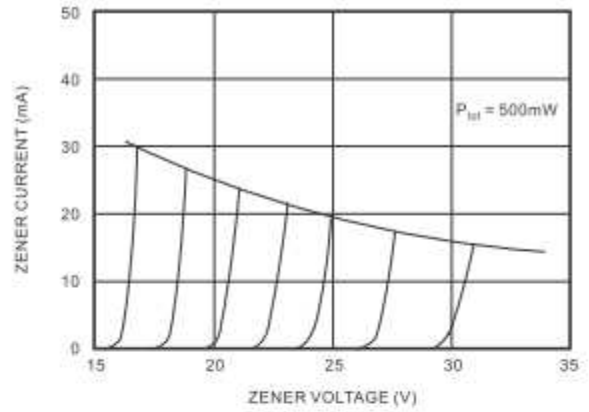


FIG. 8-Z-CURRENT VS. Z-VOLTAGE

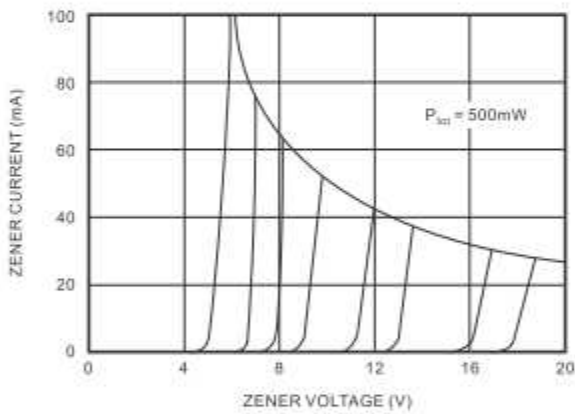


FIG. 9-DIFFERENTIAL Z-RESISTANCE VS. Z-VOLTAGE

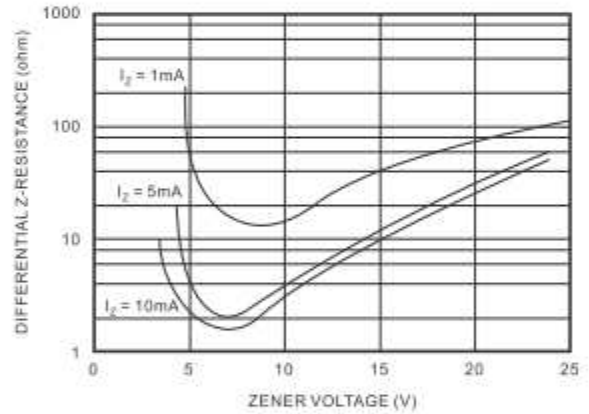
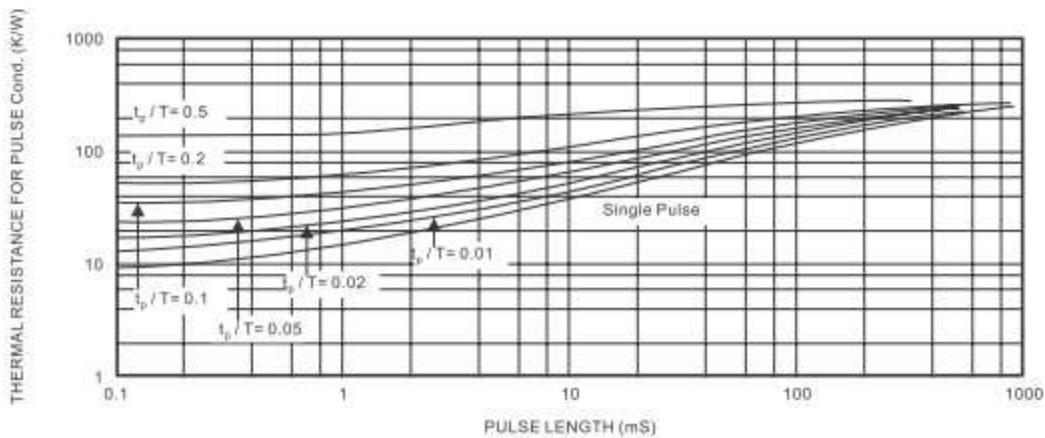




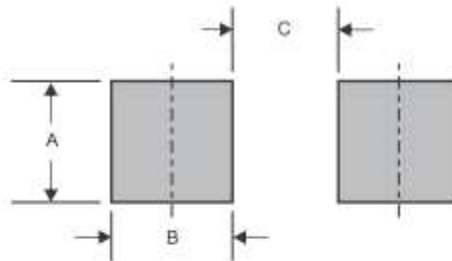
FIG. 10-THERMAL RESPONSE



Pinning information

Pin	Simplified outline	Symbol
Pin1 cathode Pin2 anode		

Suggested solder pad layout



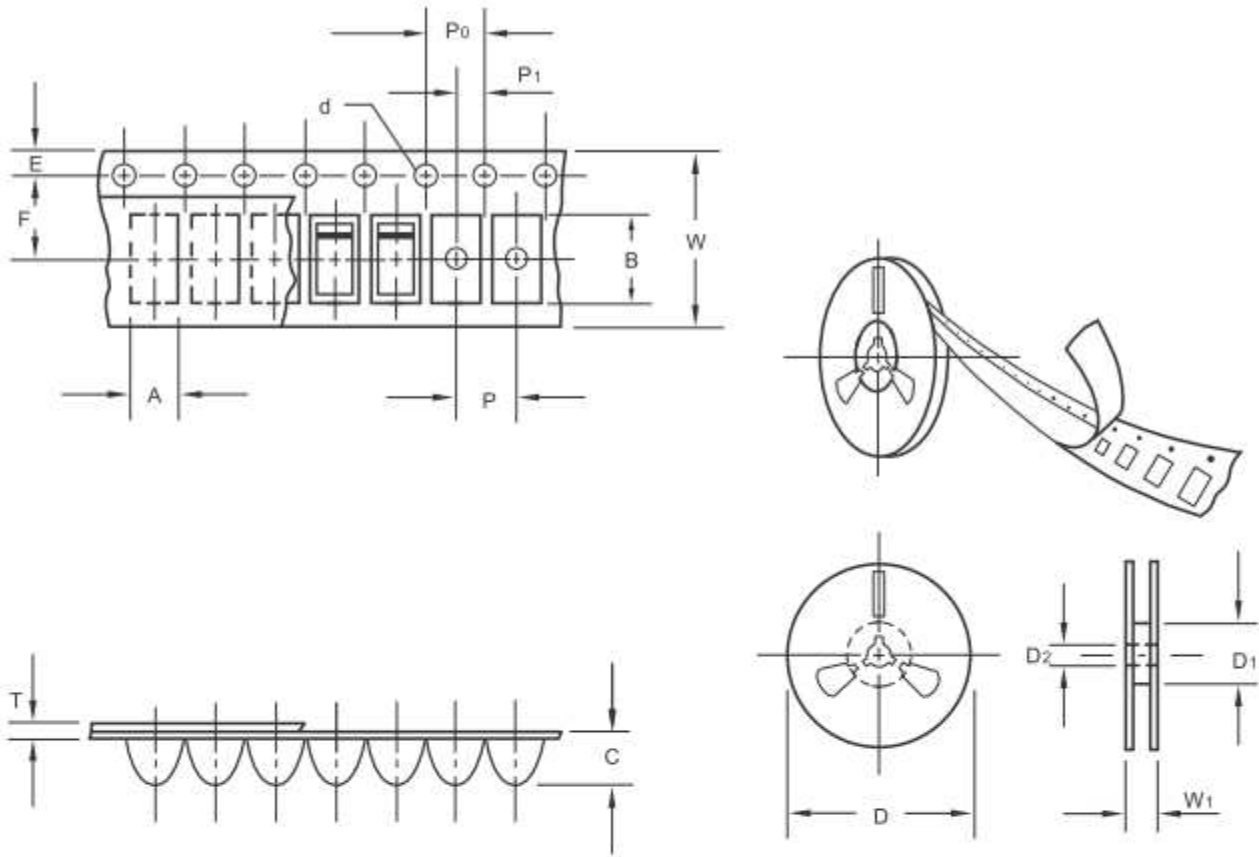
Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD-80	0.071 (1.80)	0.035 (0.90)	0.102 (2.60)

Reel packing

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-80	7"	2500	4.0	25,000	183*183*123	178	382*262*387	200,000	9.6

Packing information



unit:mm

Item	Symbol	Tolerance	SOD-80
Carrier width	A	0.1	2.00
Carrier length	B	0.1	3.70
Carrier depth	C	0.1	1.80
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	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
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	11.40

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.