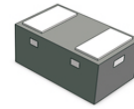


ACZRUC52C2-HF Thru. CZRUC52C39-HF

High-Reliability and High-Performance

RoHS Device

Halogen Free

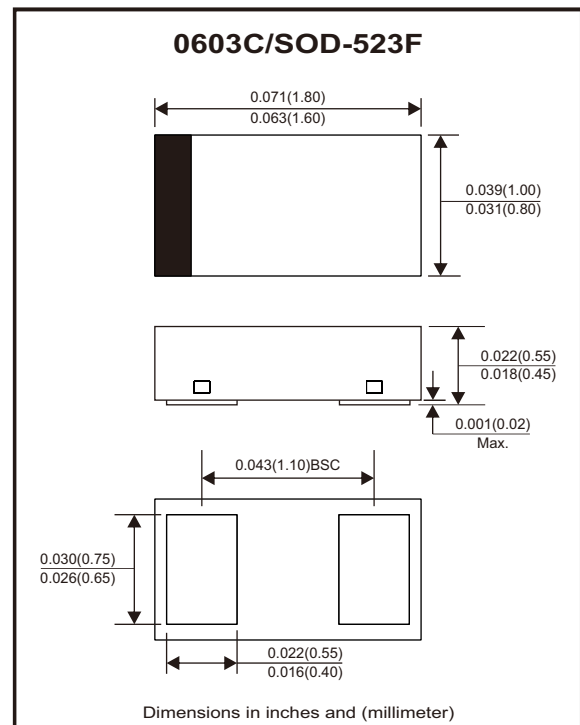


Features

- 150mW power dissipation.
- High voltages from 2V to 39V.
- Designed for mounting on small surface.
- Extremely thin/leadless package.
- Tight voltage tolerance: $\pm 5\%$.
- AEC-Q101 Qualified & PPAP.

Mechanical data

- Case: 0603C/SOD-523F package, molded plastic.
- Terminals: Gold plated, solderable per MIL-STD-750, method 2026.
- Polarity: Indicated by cathode band.
- Mounting position: Any.



Circuit Diagram



Maximum Rating (at TA=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Maximum forward voltage drop at $I_F = 10 \text{ mA}$	V_F	0.9	V
Maximum power dissipation at 25°C	P_D	150	mW
Operating junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Electrical Characteristics (at TA=25°C unless otherwise noted)

Part Number	Marking code	Zener Voltage				Operating resistance		Rising operating resistance		Reverse current	
		Vz(V)				Zzt(Ohm)		Zzk(Ohm)		Ir(μA)	
		Min	Typ	Max	Iz(mA)	Max	Iz(mA)	Max	Iz(mA)	Max	VR(V)
ACZRUC52C2-HF	Z0	1.90	2.0	2.10	5	100	5	600	1	100	1
ACZRUC52C2V2-HF	Z1	2.09	2.2	2.31	5	100	5	600	1	100	1
ACZRUC52C2V4-HF	Z2	2.28	2.4	2.52	5	85	5	600	1	100	1
ACZRUC52C2V7-HF	Z3	2.57	2.7	2.84	5	83	5	500	1	75	1
ACZRUC52C3-HF	Z4	2.85	3.0	3.15	5	95	5	500	1	50	1
ACZRUC52C3V3-HF	Z5	3.14	3.3	3.47	5	95	5	500	1	25	1
ACZRUC52C3V6-HF	Z6	3.42	3.6	3.78	5	95	5	500	1	15	1
ACZRUC52C3V9-HF	Z7	3.71	3.9	4.10	5	95	5	500	1	10	1
ACZRUC52C4V3-HF	Z8	4.09	4.3	4.52	5	95	5	500	1	5	1
ACZRUC52C4V7-HF	Z9	4.47	4.7	4.94	5	78	5	500	1	5	2
ACZRUC52C5V1-HF	ZA	4.85	5.1	5.36	5	60	5	480	1	0.1	0.8
ACZRUC52C5V6-HF	ZB	5.32	5.6	5.88	5	40	5	400	1	0.1	1
ACZRUC52C6V2-HF	ZC	5.89	6.2	6.51	5	10	5	200	1	0.1	2
ACZRUC52C6V8-HF	ZE	6.46	6.8	7.14	5	8	5	150	1	0.1	3
ACZRUC52C7V5-HF	ZF	7.13	7.5	7.88	5	7	5	50	1	0.1	5
ACZRUC52C8V2-HF	ZG	7.79	8.2	8.61	5	7	5	50	1	0.1	6
ACZRUC52C9V1-HF	ZH	8.65	9.1	9.56	5	10	5	50	1	0.1	7
ACZRUC52C10-HF	ZJ	9.50	10	10.50	5	15	5	70	1	0.1	7.5
ACZRUC52C11-HF	ZK	10.45	11	11.55	5	20	5	70	1	0.1	8.5
ACZRUC52C12-HF	ZM	11.40	12	12.60	5	20	5	90	1	0.1	9
ACZRUC52C13-HF	ZN	12.35	13	13.65	5	25	5	110	1	0.1	10
ACZRUC52C15-HF	ZP	14.25	15	15.75	5	30	5	110	1	0.1	11
ACZRUC52C16-HF	ZQ	15.20	16	16.80	5	40	5	170	1	0.1	12
ACZRUC52C18-HF	ZR	17.10	18	18.90	5	50	5	170	1	0.1	14
ACZRUC52C20-HF	ZS	19.00	20	21.00	5	50	5	220	1	0.1	15
ACZRUC52C22-HF	ZT	20.90	22	23.10	5	55	5	220	1	0.1	17
ACZRUC52C24-HF	ZU	22.80	24	25.20	5	80	5	220	1	0.1	18
ACZRUC52C27-HF	ZV	25.65	27	28.35	5	80	5	250	1	0.1	20
ACZRUC52C30-HF	ZW	28.50	30	31.50	5	80	5	250	1	0.1	23
ACZRUC52C33-HF	ZX	31.35	33	34.65	5	80	5	250	1	0.1	25
ACZRUC52C36-HF	ZY	34.20	36	37.80	5	90	5	250	1	0.1	27
ACZRUC52C39-HF	ZZ	37.05	39	40.95	5	90	5	300	1	0.1	29

Typical Rating and Characteristic Curves (ACZRUC52C2-HF Thru. ACZRUC52C39-HF)

Fig.1 - Temperature Coefficients

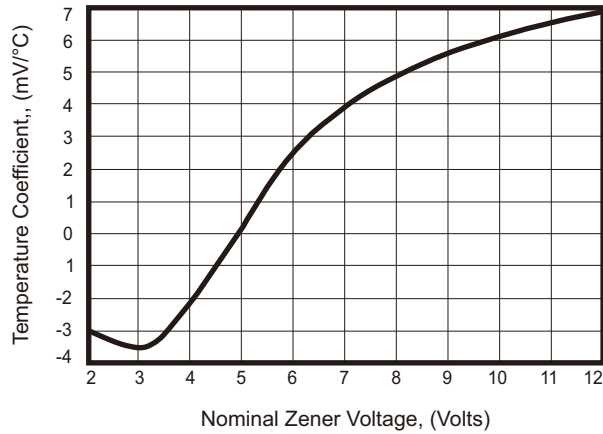


Fig.2 - Temperature Coefficients

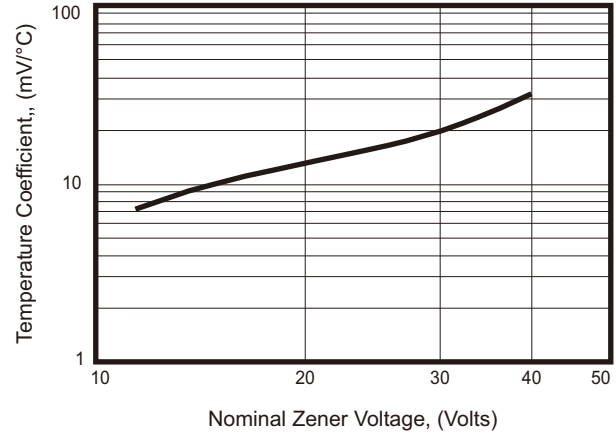


Fig.3 - Effect of Zener Voltage On Zener Impedance

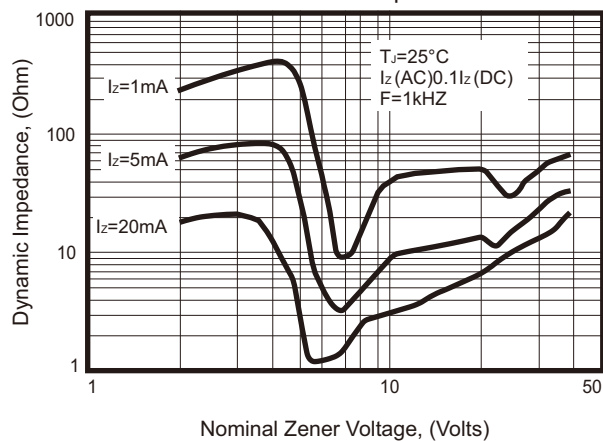


Fig.4 - Typical Forward Voltage

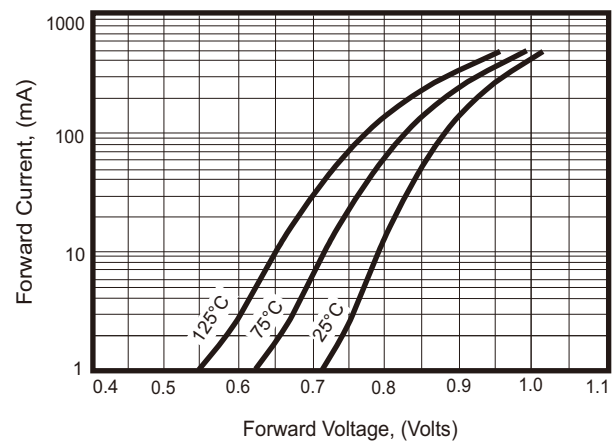


Fig.5 - Typical Leakage Current

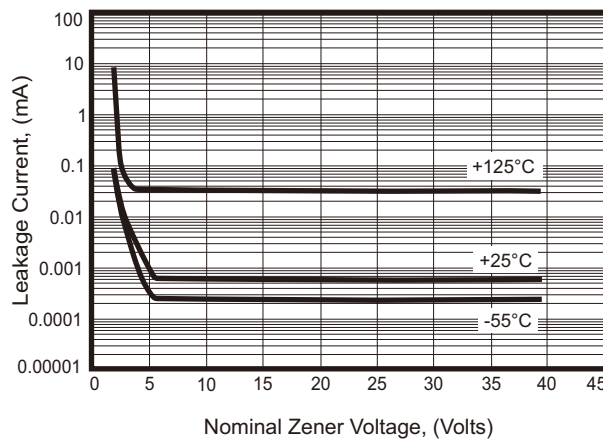
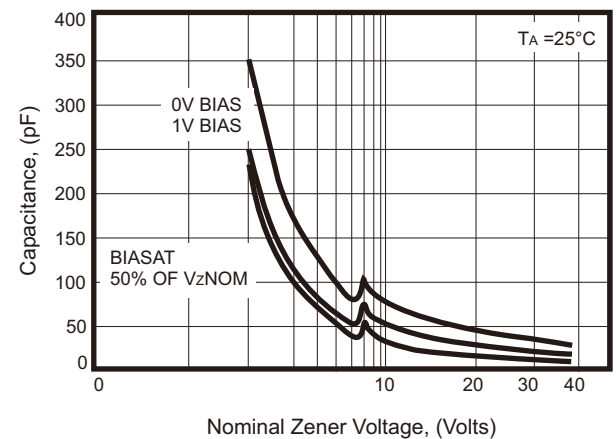


Fig.6 - Typical Capacitance



Typical Rating and Characteristic Curves (ACZRUC52C2-HF Thru. ACZRUC52C39-HF)

Fig.7 - Zener Voltage Versus Zener Current

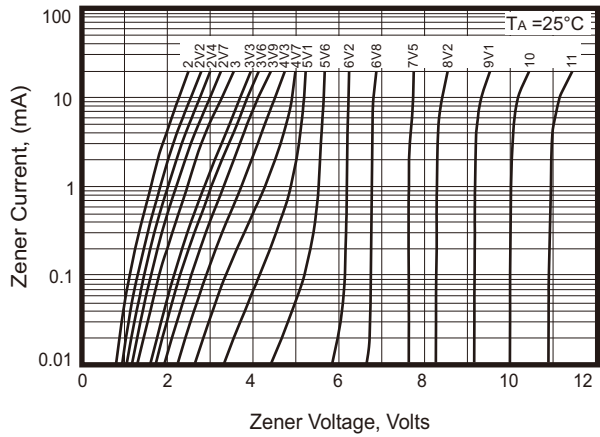


Fig.8 - Zener Voltage Versus Zener Current

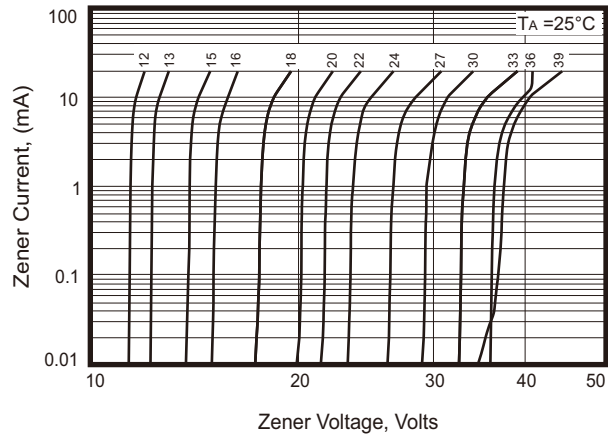
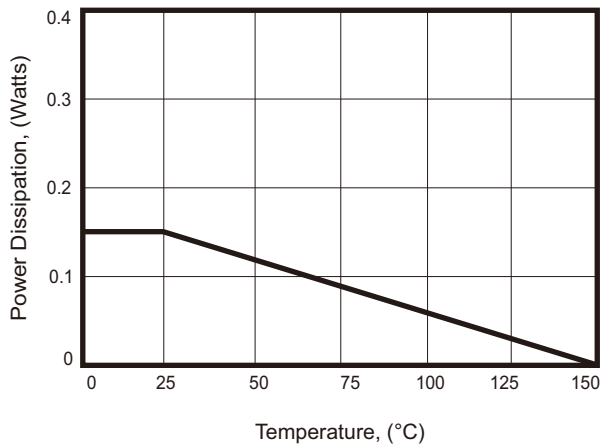
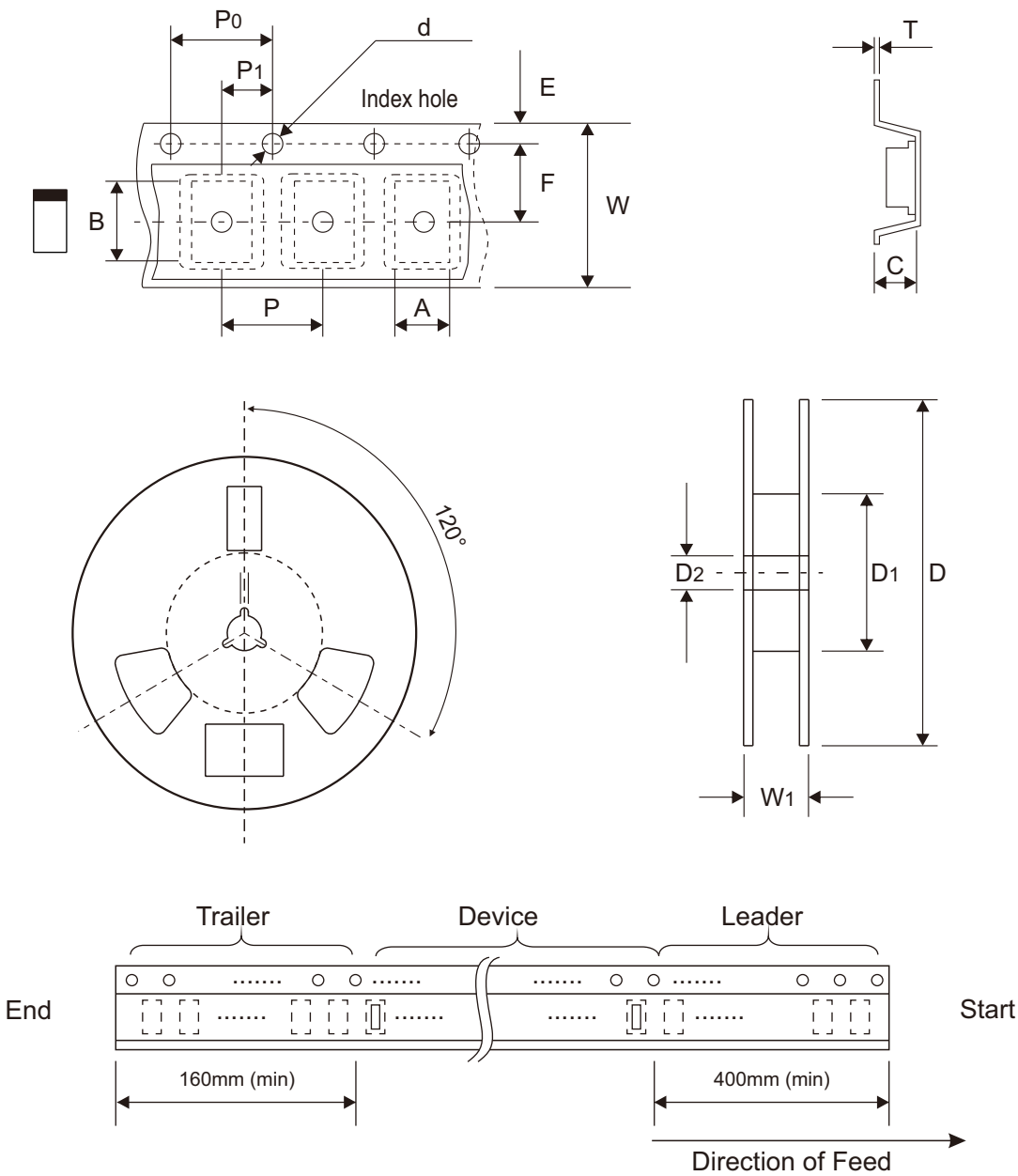


Fig.9 - Steady State Power Derating



Reel Taping Specification



0603C (SOD-523F)	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	1.05 ± 0.05	1.96 ± 0.05	0.57 ± 0.05	1.50 + 0.10 - 0.00	178.00 ± 1.00	60.00 ± 0.50	13.50 ± 0.20
	(inch)	0.041 ± 0.002	0.077 ± 0.002	0.022 ± 0.002	0.059 + 0.004 - 0.000	7.008 ± 0.039	2.362 ± 0.020	0.531 ± 0.008

0603C (SOD-523F)	SYMBOL	E	F	P	P0	P1	T	W	W1
	(mm)	1.75 ± 0.10	3.50 ± 0.05	4.00 ± 0.10	4.00 ± 0.05	2.00 ± 0.05	0.20 ± 0.03	8.00 ± 0.20	12.00 + 0.50 - 0.00
	(inch)	0.069 ± 0.004	0.138 ± 0.002	0.157 ± 0.004	0.157 ± 0.002	0.079 ± 0.002	0.008 ± 0.001	0.315 ± 0.008	0.472 + 0.020 - 0.000

Marking Code

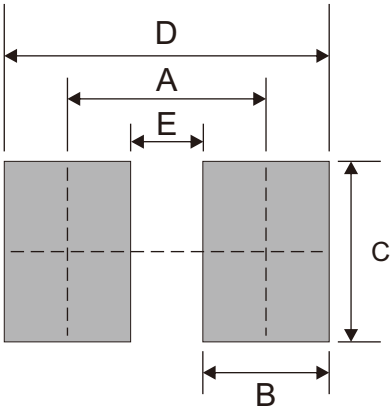
Part Number	Marking Code
ACZRUC52C2-HF Thru. ACZRUC52C39-HF	See Page 2



xx = Product type marking code

Suggested P.C.B. PAD Layout

SIZE	0603C/SOD-523F	
	(mm)	(inch)
A	1.10	0.043
B	0.70	0.028
C	1.00	0.039
D	1.80	0.071
E	0.40	0.016



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
0603C/SOD-523F	4,000	7