200mW, 2% Tolerance SMD Zener Diode

FEATURES

- Wide Zener voltage range selection: 3.6V to 36V
- V_Z tolerance selection of ± 2%
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant

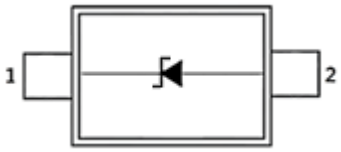
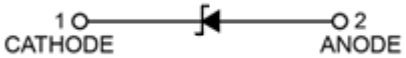
KEY PARAMETERS		
PARAMETER	**VALUE**	**UNIT**
V_Z	3.6 - 36	V
P_D	200	mW
$T_{J\ MAX}$	150	°C

APPLICATIONS

- Low voltage stabilizers or voltage references
- Adapters
- On-board DC/DC converter

MECHANICAL DATA

- Case: SOD-323F
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: Indicated by cathode band
- Weight: 4.60mg (approximately)

PACKAGE: SOD-323F	PIN CONFIGURATION	CIRCUIT DIAGRAM
		

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	VALUE	UNIT
Power dissipation(1)	P_D	200	mW
Junction temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

THERMAL PERFORMANCE

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Junction-to-ambient thermal resistance(1)	$R_{\Theta JA}$	-	-	625	°C/W

Thermal Performance Note:

1. Device mounted on an FR4 Printed-Circuit Board (PCB), single-sided copper, tin-plated and standard footprint

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ELECTRICAL SPECIFICATIONS (T_A = 25°C unless otherwise noted)

PART NUMBER	DEVICE MARKING	ZENER VOLTAGE			TEST CURRENT	REGULAR IMPEDANCE		TEST CURRENT	LEAKAGE CURRENT	
		V_Z @ I_{ZT}(1)			I_{ZT}	Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R @ V_R	
		V			mA	Ω	Ω	mA	μA	V
		Min.	Nom.	Max.		Max.	Max.		Max.	
UDZS3V6B	D0	3.60	3.72	3.85	5	90	600	1.0	4.50	1
UDZS3V9B	D1	3.89	3.90	4.16	5	90	600	1.0	2.70	1
UDZS4V3B	D2	4.17	4.30	4.43	5	90	600	1.0	2.70	1
UDZS4V7B	D3	4.55	4.70	4.75	5	80	500	1.0	2.70	1
UDZS5V1B	D4	4.98	5.10	5.20	5	60	500	1.0	1.80	2
UDZS5V6B	D5	5.49	5.60	5.73	5	40	300	1.0	0.90	3
UDZS6V2B	D6	6.06	6.20	6.33	5	40	150	1.0	2.70	3
UDZS6V8B	D7	6.65	6.80	6.93	5	30	75	1.0	1.80	4
UDZS7V5B	D8	7.28	7.50	7.60	5	30	75	1.0	0.90	4
UDZS8V2B	D9	8.02	8.20	8.36	5	30	75	1.0	0.63	5
UDZS9V1B	DA	8.85	9.10	9.23	5	30	90	1.0	0.45	6
UDZS10B	DB	9.77	10.00	10.21	5	20	150	1.0	0.18	7
UDZS11B	DC	10.76	11.00	11.22	5	20	150	1.0	0.09	8
UDZS12B	DE	11.74	12.00	12.24	5	20	150	1.0	0.09	9
UDZS13B	DF	12.91	13.00	13.49	5	40	160	1.0	0.045	10
UDZS15B	DG	14.34	14.74	14.98	5	40	190	1.0	0.045	11
UDZS16B	DH	15.85	16.00	16.51	5	40	190	1.0	0.045	12
UDZS18B	DJ	17.56	18.00	18.35	5	50	220	1.0	0.045	13
UDZS20B	DK	19.52	20.00	20.39	5	60	220	1.0	0.045	15
UDZS22B	DL	21.54	22.00	22.47	5	80	240	1.0	0.045	17
UDZS24B	DM	23.72	24.00	24.78	5	80	240	1.0	0.045	19
UDZS27B	DN	26.19	27.00	27.53	5	100	300	0.5	0.045	21
UDZS30B	DP	29.19	30.00	30.69	5	100	300	0.5	0.045	23
UDZS33B	DR	32.15	33.00	33.79	5	100	310	0.5	0.045	25
UDZS36B	DS	35.07	36.00	36.87	5	100	330	0.5	0.045	27

Notes:

1. The Zener voltage (V_Z) is tested under pulse condition of 30ms
2. For detailed information on price, availability and delivery of nominal Zener voltages between the voltages shown and tighter voltage tolerances
3. The Zener impedance is derived from the 60-cycle AC voltage, which results when an AC current having an ms value equal to 10% of the DC Zener current (I_{ZT} or I_{ZK}) is superimpossed to I_{ZT} or I_{ZK}

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ORDERING INFORMATION

ORDERING CODE[(1)(2)]	PACKAGE	PACKING
UDZSxB RRG	SOD-323F	3,000 / 7" Tape & Reel
UDZSxB RR	SOD-323F	3,000 / 7" Tape & Reel
UDZSxB R9G	SOD-323F	10,000 / 13" Tape & Reel
UDZSxB R9	SOD-323F	10,000 / 13" Tape & Reel

Notes:

1. " x" defines voltage from 3.6V (UDZS3V6B) to 36V (UDZS36B)
2. “G” means green compound (halogen-free according to IEC 61249-2-21)

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CHARACTERISTICS CURVES

(T_A = 25°C unless otherwise noted)

Fig.1 V_Z - I_Z Characteristics

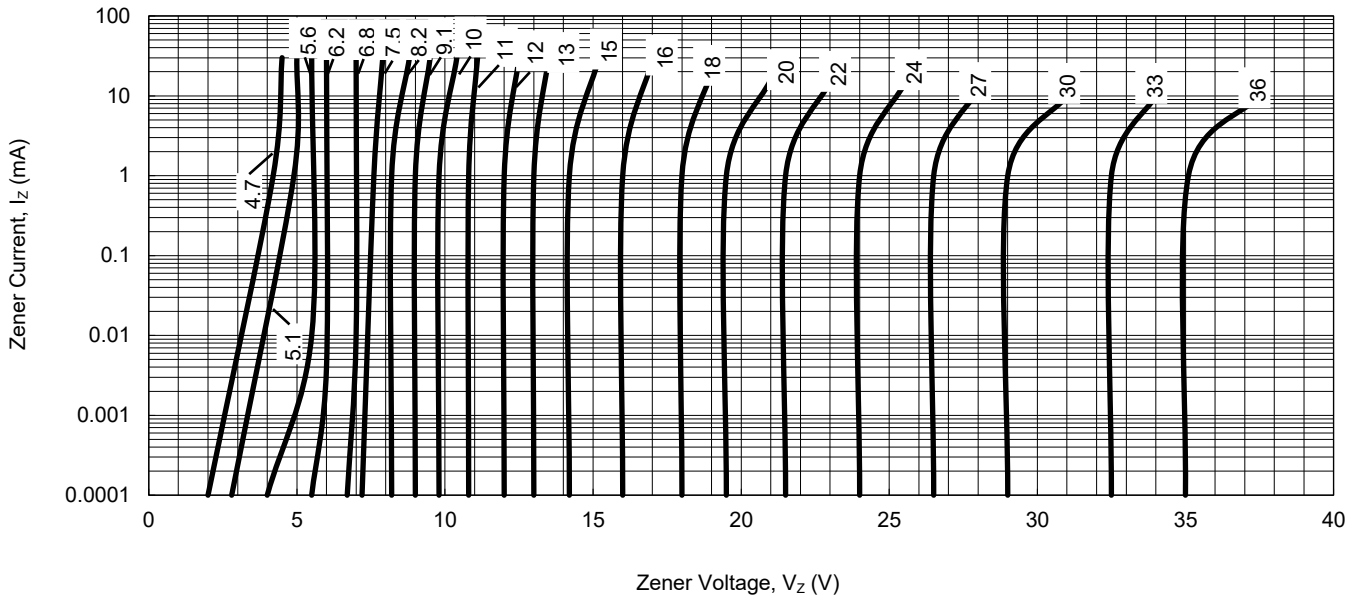


Fig.2 Derating Curve

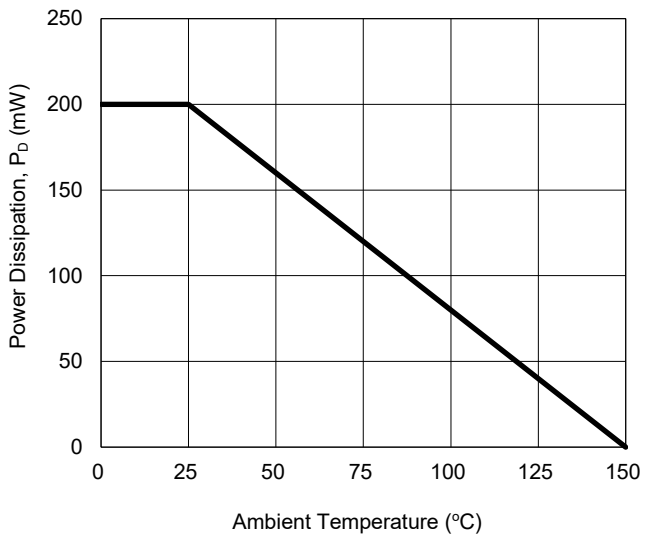
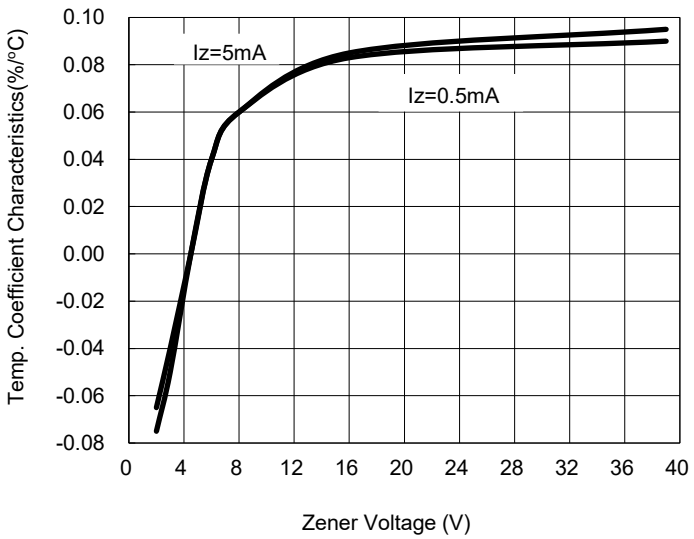


Fig.3 Zener Voltage-Temp. Coefficient Characteristics



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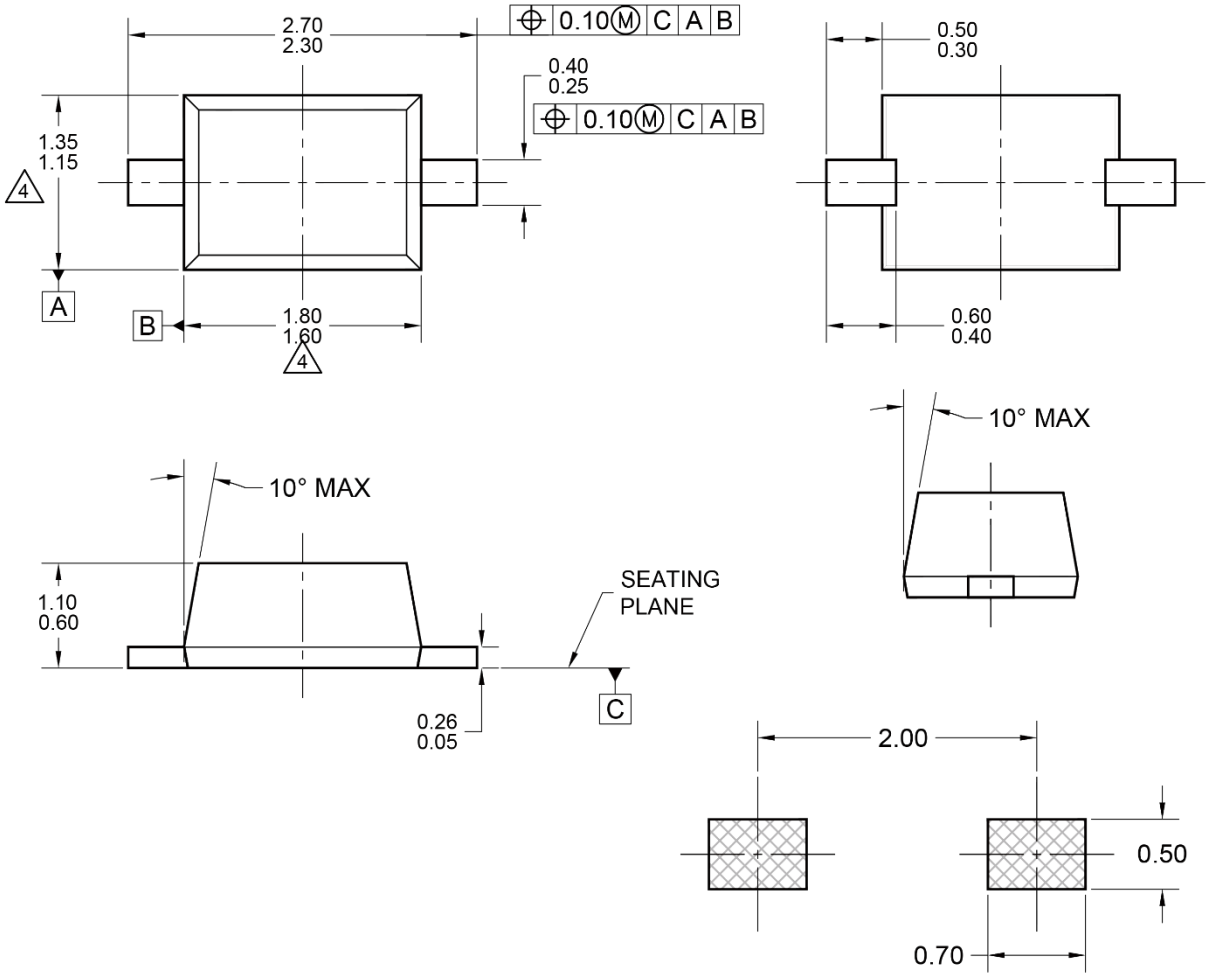
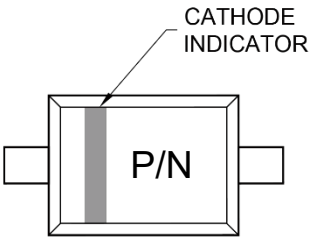
PACKAGE OUTLINE DIMENSIONS

SOD-323F



SUGGESTED PAD LAYOUT



MARKING DIAGRAM

P/N = Device marking

NOTES: UNLESS OTHERWISE SPECIFIED

1. ALL DIMENSIONS ARE IN MILLIMETERS.
2. DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
3. PACKAGE OUTLINE REFERENCE: EIAJ ED-7500A-1, SC-90.
4. MOLDED PLASTIC BODY LATERAL DIMENSIONS DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DWG NO. REF: HQ2SD07-SOD323F-018 REV B.

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