TAIWAN SEMICONDUCTOR

The Smartest Choice

Small Signal Product

UDZS3V6B - UDZS36B

200mW Surface Mount Flat Lead Plastic Package Zener Diode

SOD-323F

Features

- ◇ Zener voltage range selection, 3.6V to 36V
- ◇ Flat lead SOD-323F small outline plastic package.
- ◇ Surface device type mounting.
- ◇ Moisture sensitivity level 1
- ◇ Clip bonding construction, good thermal capability
- ◇ RoHS compliant
- ◇ Matte Tin(Sn) lead finish
- ◇ Band indicates cathode

Pb-Free

RoHS COMPLIANT

Ordering Information (example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
UDZS5V6B	SOD-323F	3K / 7" REEL	RR	RRG	L0

Note：Detail please see "Ordering Information(detail, example)" below.

Maximum Ratings and Electrical Characteristics

Rating at 25 ℃ ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Power Dissipation	Pd	200	mW
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	℃

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

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ELECTRICAL CHARACTERISTICS (TA=25℃ unless otherwise noted)

Device	Device Marking Code	V_Z @ I_{ZT}		I_{ZT}	Z_{ZT} @ I_{ZT}	I_{ZK}	Z_{ZK} @ I_{ZK}	I_R@V_R	V_R
		V		mA	Ω	mA	Ω	uA	V
		Min.	Max		Max.		Max	Max.	
UDZS3V6B	D0	3.60	3.85	5	90	1.0	600	4.50	1
UDZS3V9B	D1	3.89	4.16	5	90	1.0	600	2.70	1
UDZS4V3B	D2	4.17	4.43	5	90	1.0	600	2.70	1
UDZS4V7B	D3	4.55	4.75	5	80	1.0	500	2.70	1
UDZS5V1B	D4	4.98	5.20	5	60	1.0	500	1.80	2
UDZS5V6B	D5	5.49	5.73	5	40	1.0	300	0.90	3
UDZS6V2B	D6	6.06	6.33	5	40	1.0	150	2.70	3
UDZS6V8B	D7	6.65	6.93	5	30	1.0	75	1.80	4
UDZS7V5B	D8	7.28	7.60	5	30	1.0	75	0.90	4
UDZS8V2B	D9	8.02	8.36	5	30	1.0	75	0.63	5
UDZS9V1B	DA	8.85	9.23	5	30	1.0	90	0.45	6
UDZS10B	DB	9.77	10.21	5	20	1.0	150	0.18	7
UDZS11B	DC	10.76	11.22	5	20	1.0	150	0.09	8
UDZS12B	DE	11.74	12.24	5	20	1.0	150	0.09	9
UDZS13B	DF	12.91	13.49	5	40	1.0	160	0.045	10
UDZS15B	DG	14.34	14.98	5	40	1.0	190	0.045	11
UDZS16B	DH	15.85	16.51	5	40	1.0	190	0.045	12
UDZS18B	DJ	17.56	18.35	5	50	1.0	220	0.045	13
UDZS20B	DK	19.52	20.39	5	60	1.0	220	0.045	15
UDZS22B	DL	21.54	22.47	5	80	1.0	240	0.045	17
UDZS24B	DM	23.72	24.78	5	80	1.0	240	0.045	19
UDZS27B	DN	26.19	27.53	5	100	0.5	300	0.045	21
UDZS30B	DP	29.19	30.69	5	100	0.5	300	0.045	23
UDZS33B	DR	32.15	33.79	5	100	0.5	310	0.045	25
UDZS36B	DS	35.07	36.87	5	100	0.5	330	0.045	27

Notes：

1. The zener Voltage (VZ) is tested under pulse condition of 40ms
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 anac current having an ms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}

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RATINGS AND CHARACTERISTIC CURVES (UDZS3V6B - UDZS36B)

FIG. 1 ZENER VOLTAGE CHARACTERISTICS

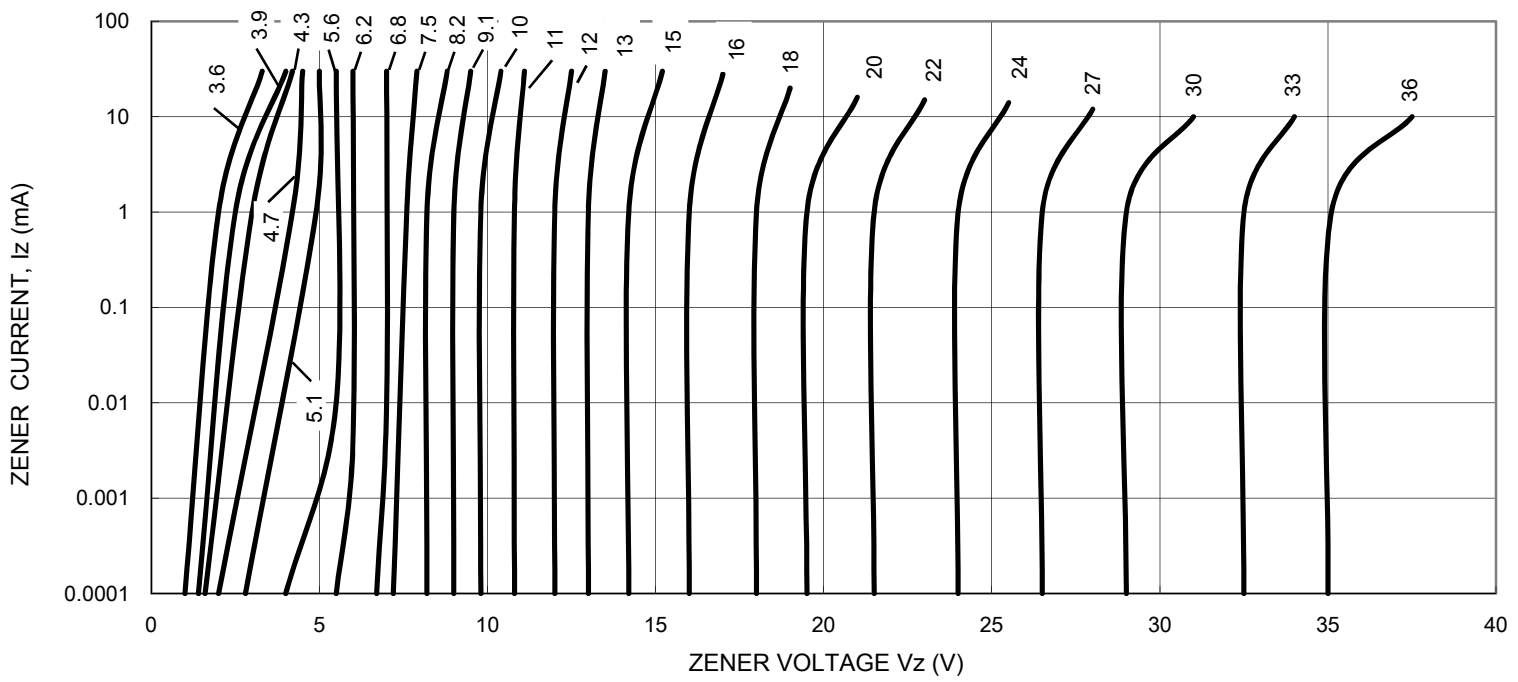


FIG.2 DERATING CURVE

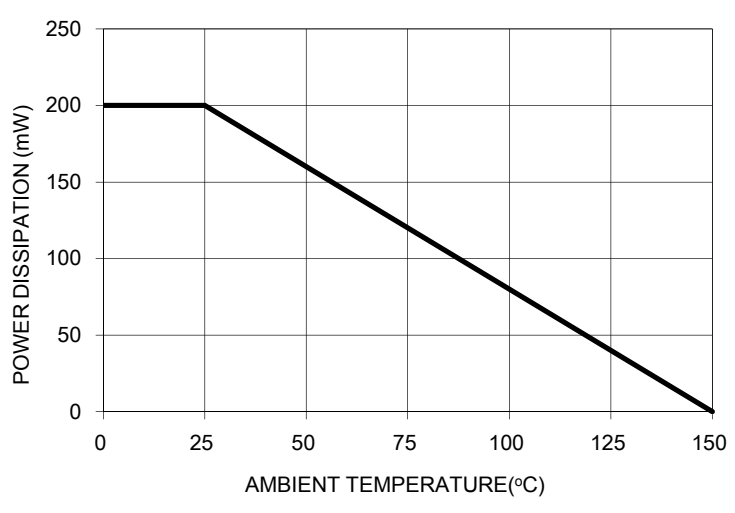
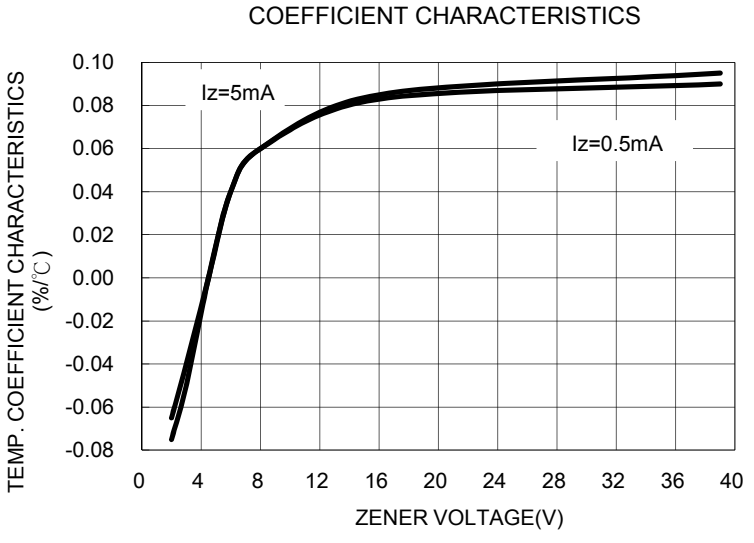


FIG. 3 ZENER VOLTAGE-TEMP. COEFFICIENT CHARACTERISTICS



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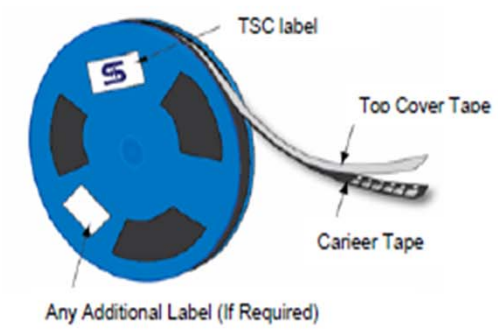
Ordering information (Detail, example)

Part No.	Package	Packing	Packing code	Packing code (Green)	Manufacture code
UDZSxxxB (Note1)	SOD-323F	3K / 7" REEL	RR	RRG	(Note 2)
UDZS5V6B	SOD-323F	3K / 7" REEL	RR	RRG	
UDZS5V6B	SOD-323F	3K / 7" REEL	RR	RRG	L0

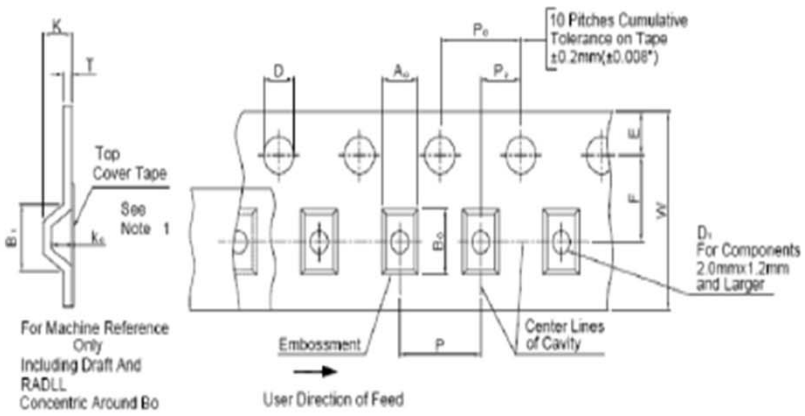
Note 1: "xxx" is Device Code from "3V6" thru "36".

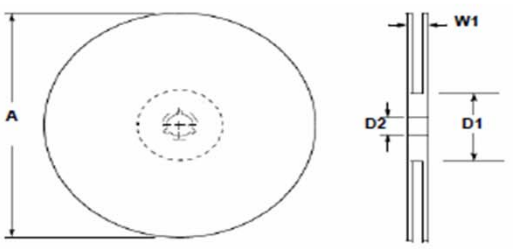
Note 2: Manufacture special control, if empty means no special control requirement.

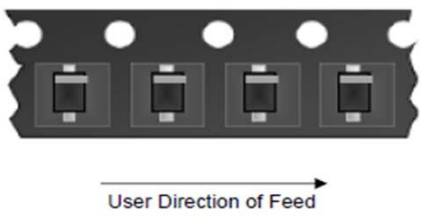
Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier depth	K	2.40 Max.
Sprocket hole	D	1.5 ± 0.1
Reel outside diameter	A	178 ± 1
Reel inner diameter	D1	50 Min.
Feed hole width	D2	13.0 ± 0.5
Sprocke hole position	E	1.75 ±0.10
Punch hole position	F	3.50 ±0.05
Sprocke hole pitch	P0	4.00 ±0.10
Embossment center	P1	2.00 ±0.10
Overall tape thickness	T	0.6 Max.
Tape width	W	8.30 Max.
Reel width	W1	14.4 Max







Note 1: A0, B0, and K0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max. The component cannot rote more than 10° within the determined cavity.

Note 2: If B1 exceeds 4.2 mm(0.165") for 8 mm embossed tape, the tape may not feed through all tape feeders.

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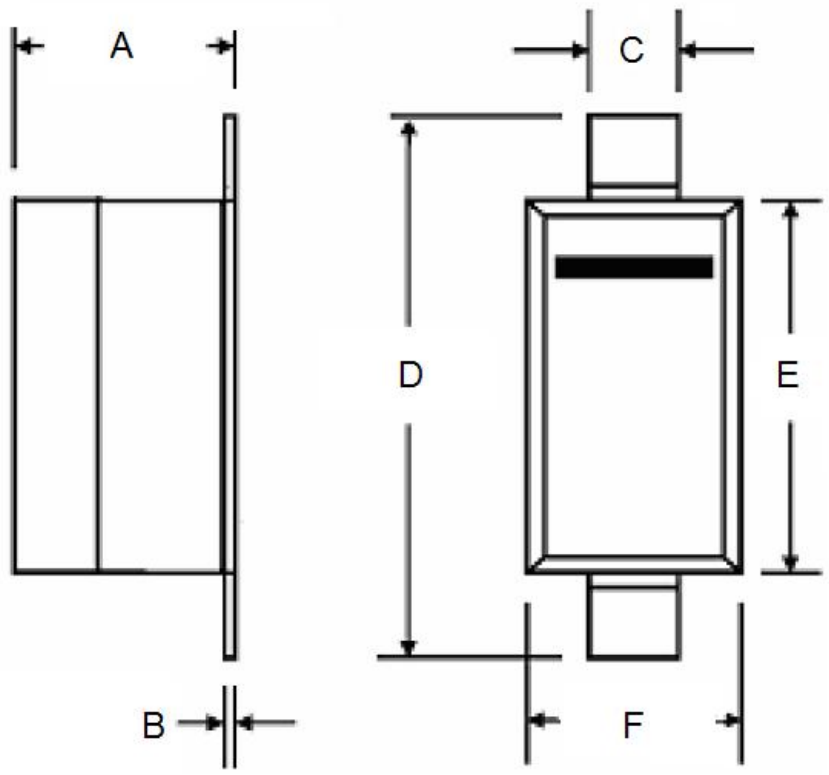
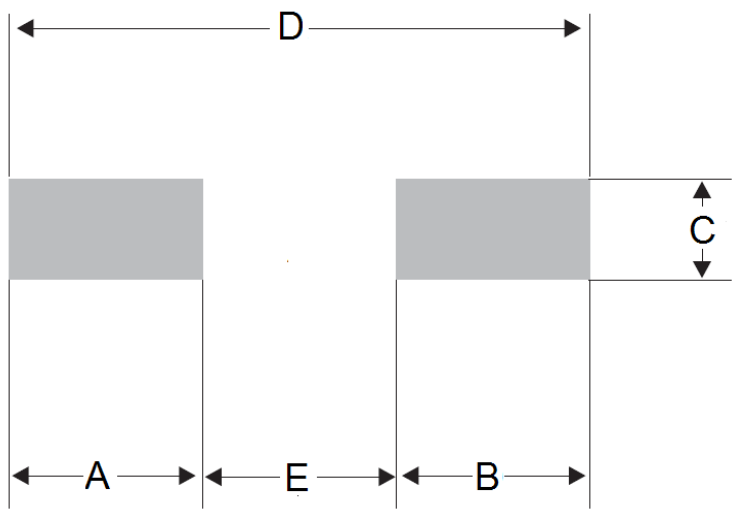
Package Outline Dimensions



DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	0.80	1.03	0.031	0.041
B	0.05	0.25	0.002	0.010
C	0.25	0.40	0.010	0.016
D	2.30	2.70	0.091	0.106
E	1.60	1.80	0.063	0.071
F	1.15	1.35	0.045	0.053

Suggested PAD Layout



Symbol	Unit(mm)
A	1.06
B	1.06
C	0.54
D	3.2
E	1.08