

ZENER DIODES

POWER DISSIPATION: 1.0 W

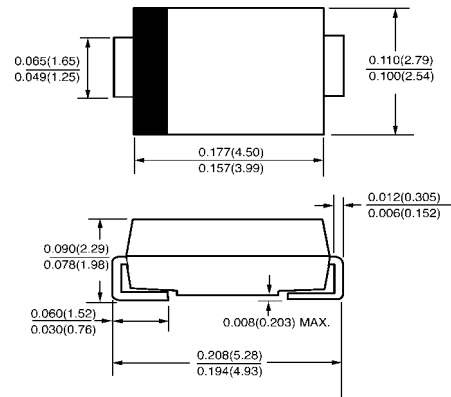
FEATURES

- ◇ Silicon planar power zener diodes
- ◇ For use in stabilizing and clipping circuits with high power rating.
- ◇ Standard zener voltage tolerance is $\pm 10\%$. Add suffix "A" for $\pm 5\%$ tolerance. Other zener voltage and tolerances are available upon request.

MECHANICAL DATA

- ◇ Case: DO-214AC
- ◇ Terminals: Solderable per MIL-STD-202, method 208
- ◇ Polarity: Cathode band
- ◇ Marking: Type number
- ◇ Weight: 0.002 ounces, 0.064 gram

(DO-214AC)SMA



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNIT
Zener current (see Table "Characteristics")			
Power dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{tot}	1.0 ¹⁾	W
Junction temperature	T_J	-40---+150	°C
Storage temperature range	T_s	-40---+150	°C

NOTES: (1) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature.

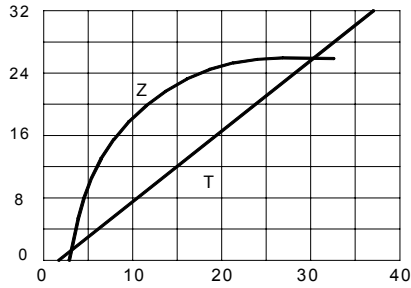
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ELECTRICAL CHARACTERISTICS (T_A=25 °C)

Type	Device Marking Code	Nominal Zener Voltage					Temperature Coefficient of Zener Voltage α _T (mV/°C)	Forward Voltage		Reverse Current		
		Zener Voltage V _Z (V)			Zener Impedance r _d (Ω)	Measurement Current I _Z		V _F (V)	Measurement Current I _F	I _R (μA)	Measurement Voltage V _R	
		Min.	Typ.	Max.	Max.	mA		Typ.	Max.	Max.	A	Max.
U1ZB6.8	ZB6.8	6.2	6.8	7.4	60	10	3.0	4.0	1.2	0.2	10	3.0
U1ZB7.5	ZB7.5	6.8	7.5	8.3	30	10	4.0	5.0	1.2	0.2	10	4.5
U1ZB8.2	ZB8.2	7.4	8.2	9.1	30	10	4.0	6.0	1.2	0.2	10	4.9
U1ZB9.1	ZB9.1	8.2	9.1	10.1	30	10	5.0	8.0	1.2	0.2	10	5.5
U1ZB10	ZB10	9.0	10	11.0	30	10	6.0	9.0	1.2	0.2	10	6.0
U1ZB11	ZB11	9.9	11	12.1	30	10	7.0	11	1.2	0.2	10	7.0
U1ZB12	ZB12	10.8	12	13.2	30	10	8.0	13	1.2	0.2	10	8.0
U1ZB13	ZB13	11.7	13	14.3	30	10	9.0	14	1.2	0.2	10	9.0
U1ZB15	ZB15	13.5	15	16.5	30	10	11	17	1.2	0.2	10	10
U1ZB16	ZB16	14.4	16	17.6	30	10	12	19	1.2	0.2	10	11
U1ZB18	ZB18	16.2	18	19.8	30	10	14	23	1.2	0.2	10	13
U1ZB20	ZB20	18.0	20	22.0	30	10	16	26	1.2	0.2	10	14
U1ZB22	ZB22	19.8	22	24.2	30	10	18	28	1.2	0.2	10	16
U1ZB24	ZB24	21.6	24	26.4	30	10	20	32	1.2	0.2	10	17
U1ZB27	ZB27	24.3	27	29.7	30	10	23	36	1.2	0.2	10	19
U1ZB30	ZB30	27.0	30	33.0	30	10	25	40	1.2	0.2	10	21
U1ZB33	ZB33	29.7	33	36.3	30	10	26	41	1.2	0.2	10	26.4
U1ZB36	ZB36	32.4	36	39.6	30	9.0	28	45	1.2	0.2	10	28.8
U1ZB43	ZB43	38.7	43	47.3	40	7.0	33	53	1.2	0.2	10	34.4
U1ZB47	ZB47	42.3	47	51.7	65	6.0	38	60	1.2	0.2	10	37.6
U1ZB51	ZB51	45.9	51	56.1	65	6.0	43	68	1.2	0.2	10	40.8
U1ZB68	ZB68	61.2	68	74.8	120	4.0	57	90	1.2	0.2	10	54.4
U1ZB75	ZB75	67.5	75	82.5	150	4.0	66	104	1.2	0.2	10	60.0
U1ZB82	ZB82	73.8	82	90.2	170	3.0	71	113	1.2	0.2	10	65.4
U1ZB100	100	90	100	110	300	3.0	87	138	1.2	0.2	10	80
U1ZB110	110	99	110	121	300	3.0	96	152	1.2	0.2	10	88
U1ZB150	150	135	150	165	450	2.0	136	212	1.2	0.2	10	120
U1ZB180	180	162	180	198	500	1.5	161	255	1.2	0.2	10	144
U1ZB200	200	180	200	220	500	1.5	170	269	1.2	0.2	10	160
U1ZB200-Y	200Y	190	200	210			170	269				160
U1ZB200-Z	200Z	200	210	220			178	286				168
U1ZB220	220	198	220	242	5000	0.5	200	309	1.2	0.2	10	176
U1ZB220-Y	220Y	210	220	230			200	309				176
U1ZB220-Z	220Z	220	230	240			207	320				184
U1ZB240	240	216	240	264	5000	0.5	215	325	1.2	0.2	10	192
U1ZB240-Y	240Y	230	240	250			215	325				216
U1ZB240-Z	240Z	240	250	260			225	338				225
U1ZB270	270	243	270	297	5000	0.5	243	385	1.2	0.2	10	216
U1ZB270-X	270X	250	260	270			221	350				234
U1ZB270-Y	270Y	260	270	280			228	362				243
U1ZB270-Z	270Z	270	280	290			236	374				252
U1ZB300	300	270	300	330	5000	0.5	270	428	1.2	0.2	10	240
U1ZB300-X	300X	280	290	300			244	388				261
U1ZB300-Y	300Y	290	300	310			253	402				270
U1ZB300-Z	300Z	300	310	320			261	415				279
U1ZB330	330	297	330	363	5000	0.5	296	470	1.2	0.2	10	264
U1ZB330-X	330X	310	320	330			270	428				288
U1ZB330-Y	330Y	320	330	340			278	441				297
U1ZB330-Z	330Z	330	340	350			287	455				306
U1ZB390	390	351	390	429	10000	0.5	350	555	1.2	0.2	10	312

TEMPERATURE COEFFICIENT OF
ZENER VOLTAGE AT (mV/°C)

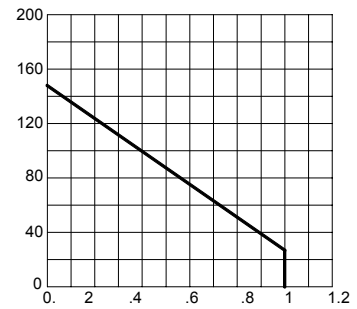
FIG.1 -- AT $Y_Z - V_Z$



ZENER VOLTAGE V_Z (V)

MAXIMUM ALLOWABLE AMBIENT
TEMPERATURE $T_{A\text{ MAX}}$ (°C)

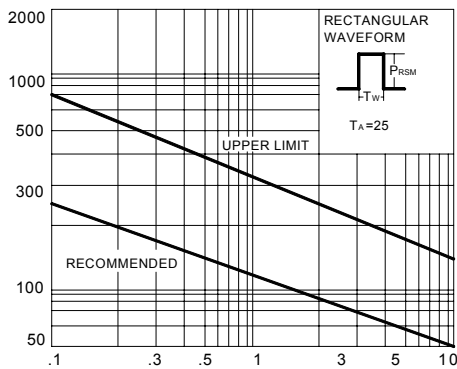
FIG.2 -- $T_{A\text{ MAX}} - P$



POWER DISSIPATION P (W)

PEAK REVERSE POWER DISSIPATION
 P_{RSM} (W)

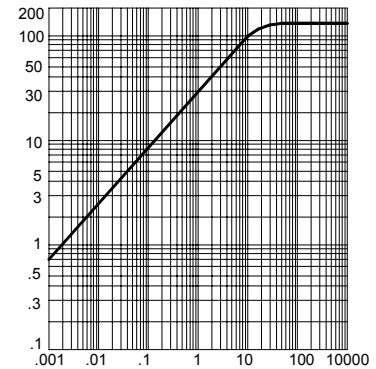
FIG.3 -- $P_{RSM} - t_w$



PULSE WIDTH t_w (ms)

TRANSIENT THERMAL IMPEDANCE
 $R_{\theta JA}$ (°C/W)

FIG.4 -- $R_{\theta JA} - T$



TIME T (S)