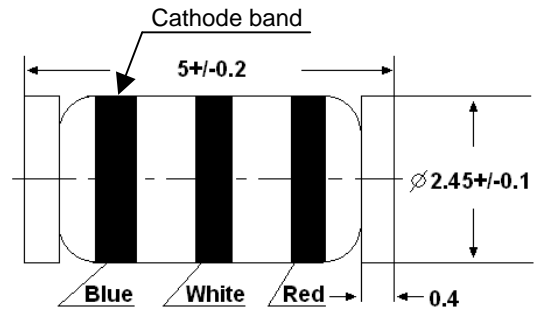


3 WATT ZENER DIODES

LL-41

Features:

- Zener Voltage Range – 3.3V to 200V



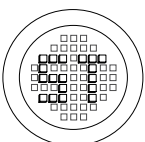
Glass case MELF  
Dimensions in mm

Absolute Maximum Ratings ( $T_a = 25 \text{ } ^\circ\text{C}$  ? )

	Symbol	Value	Unit
Max. Steady State Power Dissipation	$P_{tot}$	3	W
Junction Temperature	$T_j$	-65 to +175	?
Storage Temperature Range	$T_s$	-65 to +175	?

Characteristics at  $T_{amb} = 25^\circ\text{C}$

	Symbol	Min.	Typ.	Max.	Unit
Forward Voltage at $I_F = 200\text{mA}$	$V_F$	-	-	1.5	V



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# ZM3C

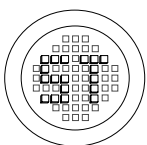
Characteristics  $T_a = 25^\circ\text{C}$  unless otherwise noted.

Type	Zener Voltage			Zener Impedance (Note 1)			Leakage Current		$I_{ZM}$	
	$V_Z$			$@ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$			
	Min	Nom	Max	mA	$\Omega$	$\Omega$	mA	$\mu\text{A Max}$	V	mA
ZM3C3.3	3.14	3.3	3.47	113.6	10	500	1	100	1	454
ZM3C3.6	3.42	3.6	3.78	104.2	9	500	1	75	1	416
ZM3C3.9	3.71	3.9	4.10	96.1	7.5	500	1	25	1	384
ZM3C4.3	4.09	4.3	4.52	87.2	6	500	1	5	1	348
ZM3C4.7	4.47	4.7	4.94	79.8	5	500	1	5	1.5	319
ZM3C5.1	4.85	5.1	5.36	73.5	4	350	1	5	2	294
ZM3C5.6	5.32	5.6	5.88	66.9	2	250	1	5	3	267
ZM3C6.2	5.89	6.2	6.51	60.5	2	200	1	5	4	241
ZM3C6.8	6.46	6.8	7.14	55.1	2.5	200	1	5	5.2	220
ZM3C7.5	7.13	7.5	7.88	50	3	400	0.5	5	6	200
ZM3C8.2	7.79	8.2	8.61	45.7	3.5	400	0.5	5	6.5	182
ZM3C9.1	8.65	9.1	9.56	41.2	4	500	0.5	5	7	164
ZM3C10	9.50	10	10.50	37.5	4.5	500	0.25	5	8	150
ZM3C11	10.45	11	11.55	34.1	5.5	550	0.25	1	8.4	136
ZM3C12	11.40	12	12.60	31.2	6.5	550	0.25	1	9.1	125
ZM3C13	12.35	13	13.65	28.8	7	550	0.25	1	9.9	115
ZM3C15	14.25	15	15.75	25.0	9	600	0.25	1	11.4	100
ZM3C16	15.20	16	16.80	23.4	10	600	0.25	1	12.2	93
ZM3C18	17.10	18	18.90	20.8	12	650	0.25	1	13.7	83
ZM3C20	19.00	20	21.00	18.7	14	650	0.25	1	15.2	75
ZM3C22	20.90	22	23.10	17.0	17.5	650	0.25	1	16.7	68
ZM3C24	22.80	24	25.20	15.6	19	700	0.25	1	18.2	62
ZM3C27	25.65	27	28.35	13.9	23	700	0.25	1	20.6	55
ZM3C30	28.50	30	31.50	12.5	28	750	0.25	1	22.8	50
ZM3C33	31.35	33	34.65	11.4	33	800	0.25	1	25.1	45
ZM3C36	34.20	36	37.80	10.4	38	850	0.25	1	27.4	41
ZM3C39	37.05	39	40.95	9.6	45	900	0.25	1	29.7	38
ZM3C43	40.85	43	45.15	8.7	53	950	0.25	1	32.7	34
ZM3C47	44.65	47	49.35	8.0	67	1000	0.25	1	35.8	31
ZM3C51	48.45	51	53.55	7.3	70	1100	0.25	1	38.8	29
ZM3C56	53.20	56	58.80	6.7	86	1300	0.25	1	42.6	26
ZM3C62	58.90	62	65.10	6.0	100	1500	0.25	1	47.1	24
ZM3C68	64.60	68	71.40	5.5	120	1700	0.25	1	51.7	22
ZM3C75	71.25	75	78.75	5.0	140	2000	0.25	1	56	20
ZM3C82	77.90	82	86.10	4.6	160	2500	0.25	1	62.2	18
ZM3C91	86.45	91	95.55	4.1	200	3000	0.25	1	69.2	16
ZM3C100	95	100	105	3.7	250	3100	0.25	1	76	15
ZM3C110	104.5	110	115.5	3.4	300	4000	0.25	1	83.6	13
ZM3C120	114	120	126	3.1	380	4500	0.25	1	91.2	12
ZM3C130	123.5	130	136.5	2.9	450	5000	0.25	1	98.8	11
ZM3C150	142.5	150	157.5	2.5	600	6000	0.25	1	114	10
ZM3C160	152	160	168	2.3	700	6500	0.25	1	121.6	9
ZM3C180	171	180	189	2.1	900	7000	0.25	1	136.8	8
ZM3C200	190	200	210	1.9	1200	8000	0.25	1	152	7

## 1. ZENER IMPEDANCE ( $Z_Z$ ) DERIVATION

The zener impedance is derived from 60 seconds AC voltage, which results when an AC current having an rms value equal to 10% of the DC zener current ( $I_{ZT}$  or  $I_{ZK}$ ) is superimposed on  $I_{ZT}$  or  $I_{ZK}$ .

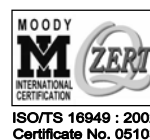
## 2. Tested with pulses $t_p = 20$ ms.



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Certificate No. 555-1996-AQ-RSC-RW

Dated : 10/08/2005

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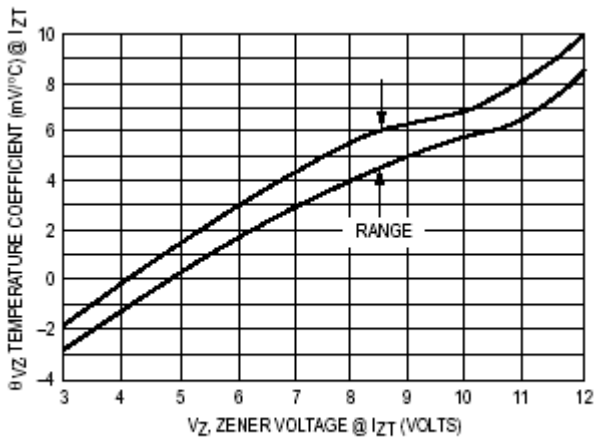


Figure 1 . Units To 12 Volts

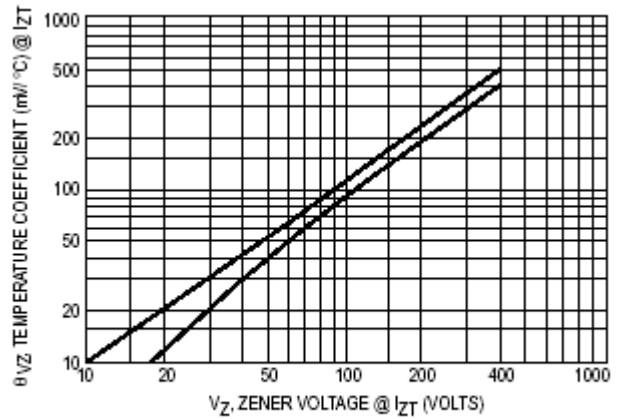


Figure 2 . Units 10 To 400 Volts

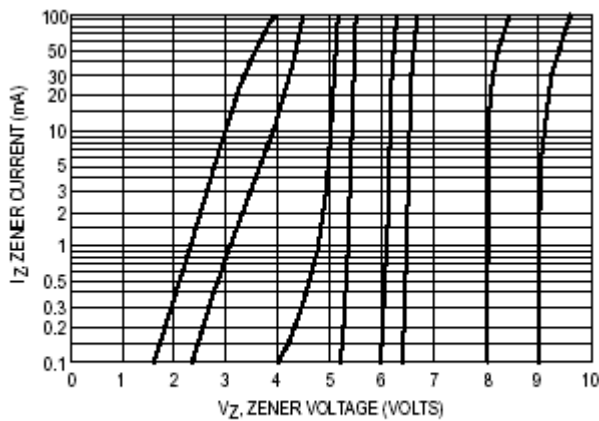


Figure 3 . Vz = 3.3 thru 10 Volts

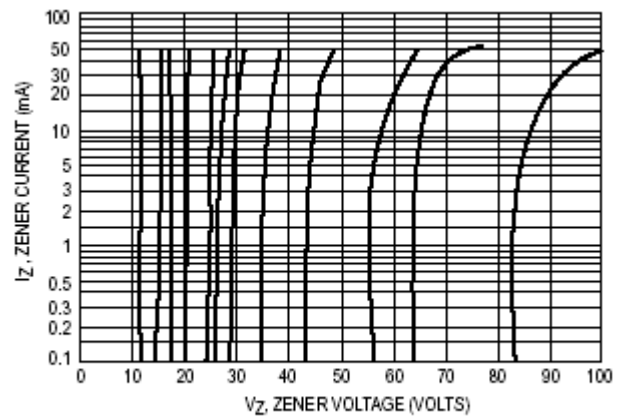


Figure 4 . Vz = 12 thru 82 Volts

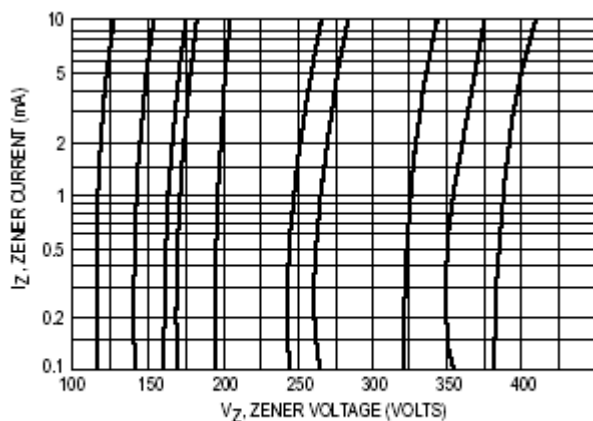
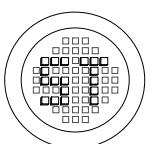


Figure 5 . Vz = 100 thru 400 Volts



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