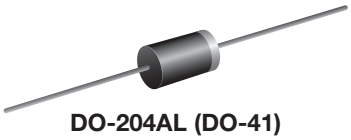
Glass Passivated Power Voltage-Regulating Diodes



DO-204AL (DO-41)

FEATURES

- Plastic MELF package
- Ideal for automated placement
- Glass passivated chip junction
- Low Zener impedance
- Low regulation factor
- Solder dip 275 °C max. 10 s, per JESD 22-B106
- AEC-Q101 qualified
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

PRIMARY CHARACTERISTICS	
V_Z	100 V to 200 V
P_{tot}	1500 mW
I_R ($V_Z \geq 12$ V)	5.0 µA
T_J max.	150 °C
V_Z specification	Pulse current
Int. construction	Single

MECHANICAL DATA

Case: DO-204AL (DO-41)
Molding compound meets UL 94 V-0 flammability rating
Base P/N-E3 - RoHS-compliant, commercial grade
Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102
E3 suffix meets JESD 201 class 1A whisker test, HE3 suffix meets JESD 201 class 2 whisker test

Polarity: Color band denotes cathode end

TYPICAL APPLICATIONS

For general purpose regulation and protection applications.

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

PARAMETER	SYMBOL	VALUE	UNIT
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150	°C

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

PART NUMBER [1]	ZENER VOLTAGE RANGE			TEST CURRENT		MAXIMUM ZENER IMPEDANCE		MAXIMUM REVERSE CURRENT			MAXIMUM CONTINUOUS FORWARD VOLTAGE	MAXIMUM ZENER CURRENT
	V_Z at I_{ZT}			I_{ZT}	I_{ZK}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_R at V_R			V_{FM} at 0.5 A	I_{ZM}
	V			mA		Ω		µA		V	V	mA
	MIN.	NOM.	MAX.			MAX.	MAX.	25 °C	100 °C		MAX.	MAX.
Z4KE100A	95	100	105	5.0	0.25	500	5000	0.5	100	76.0	1.0	15.0
Z4KE110A	104	110	116	5.0	0.25	600	5000	0.5	100	83.2	1.0	13.0
Z4KE120A	114	120	126	5.0	0.25	700	5000	0.5	100	91.2	1.0	12.0
Z4KE130A	124	130	137	5.0	0.25	800	5000	0.5	100	99.2	1.0	11.0
Z4KE140A	133	140	147	5.0	0.25	900	5500	0.5	100	106.4	1.0	10.7
Z4KE150A	142	150	158	5.0	0.25	1000	6000	0.5	100	113.6	1.0	10.0
Z4KE160A	152	160	168	5.0	0.25	1100	6500	0.5	100	121.6	1.0	9.0
Z4KE170A	162	170	179	5.0	0.25	1200	7000	0.5	100	129.6	1.0	8.0
Z4KE180A	171	180	189	5.0	0.25	1300	7000	0.5	100	136.8	1.0	8.0
Z4KE190A	180	190	200	5.0	0.25	1400	7500	0.5	100	144.0	1.0	7.9
Z4KE200A	190	200	210	5.0	0.25	1500	8000	0.5	100	152.0	1.0	7.0

Note

[1] Maximum power dissipation is 1500 mW at T_L = 75 °C with lead length 0.375" (9.5 mm)

ORDERING INFORMATION (Example)

PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
Z4KE100A-E3/54	0.350	54	5500	13" diameter plastic tape and reel
Z4KE100AHE3/54 [1]	0.350	54	5500	13" diameter plastic tape and reel

Note

[1] AEC-Q101 qualified

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RATINGS AND CHARACTERISTICS CURVES

(T_A = 25 °C unless otherwise noted)

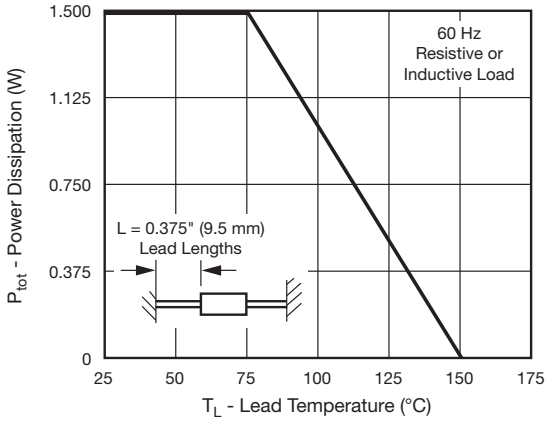

Fig. 1 - Power Derating Curve

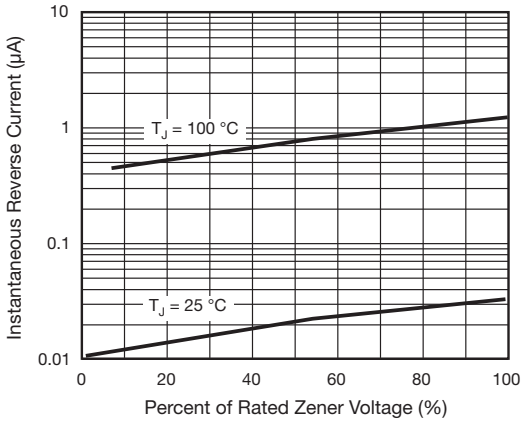

Fig. 4 - Typical Reverse Characteristics

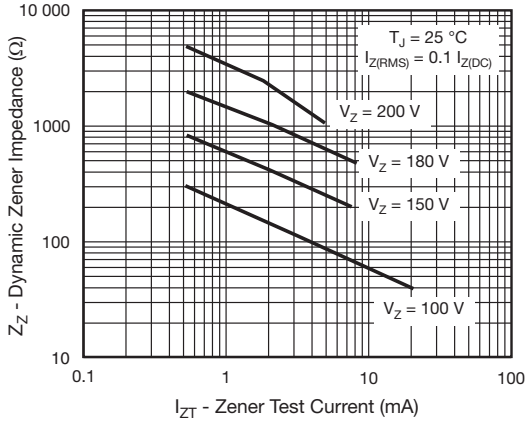

Fig. 2 - Typical Zener Impedance

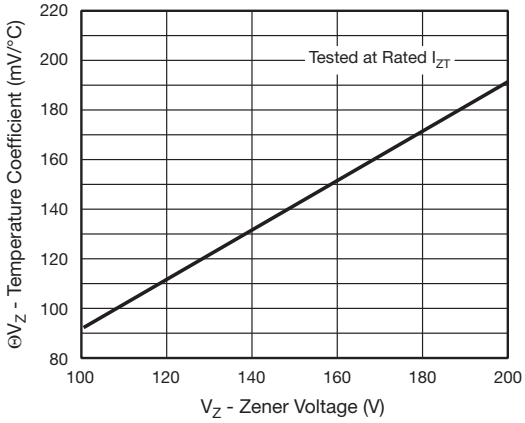

Fig. 5 - Typical Temperature Coefficients

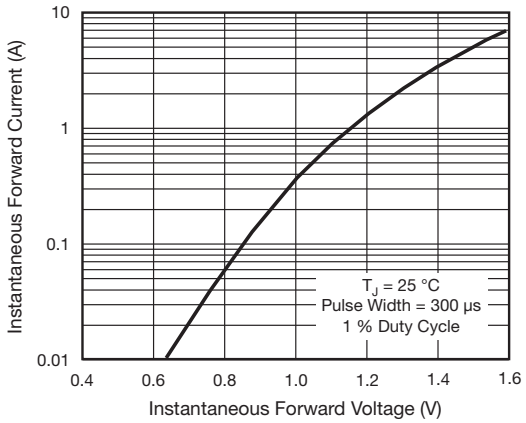

Fig. 3 - Typical Instantaneous Forward Characteristics

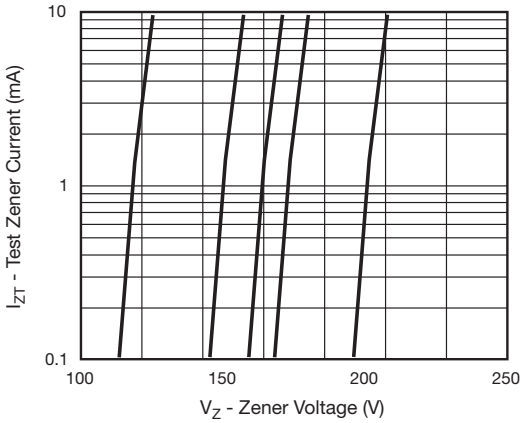

Fig. 6 - Typical Zener Voltage

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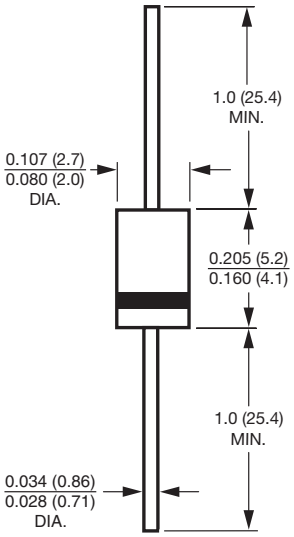
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

DO-204AL (DO-41)



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