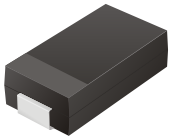
SURFACE MOUNT ZENER DIODE

COMCHIP
SMD DIODE SPECIALIST

CZRA4740 thru CZRA4764

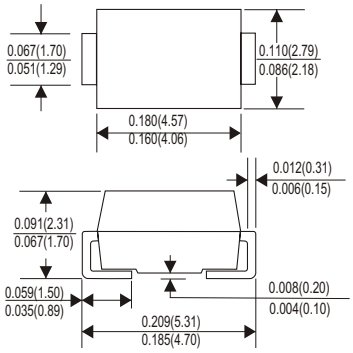
Voltage: 10-100 Volts
Power: 1.0 Watts



FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Typical I_R less than 5.0uA above 11V
- High temper ature soldering : 260°C / 10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O

DO-214AC (SMA)



Dimensionsininchesand(millimeters)

MECHANICAL DATA

Case: JEDEC DO-214AC, Molded plastic over passivated junction
Terminals: Solder plated, solderable per MIL-STD-750, method 2026
Polarity: Color band denotes positive end(cathode)
Standard Packaging: 12mm tape(EIA-481)
Weight: 0.002 ounce, 0.064 gram

Maximum Ratings and Electrical Characterics

Ratings at 25°C ambient temperature unless otherwise specified.

	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on T_A= 50°C (Note A) Derate above 50°C	P_D	1.0 6.67	Watts mW/°C
Peak forward Surge Current 8.3ms single half sine-wave superimposed on rated load(JEDEC Method) (Note B)	I_{FSM}	10	Amps
Operating Junction and Storage Temperature Range	T_J,T_{STG}	-55 to +150	°C

NOTES:

A. Mounted on 5.0mm^2(.013mm thick) land areas.

B. Measured on 8.3ms, single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

ELECTRICAL CHARACTERISTICS

(T_A=25°C unless otherwise noted) (V_F=1.2Volts Max, I_F=200mA for all types.)

Device (Note 1.)	Nominal Zener Voltage V_Z @ I_{ZT} (Note 2, 3)	Test current I_{ZT}	Maximum Zener Impedance (Note 4)			Leakage Current		Surge Current @TA = 25°C (Note 5)
			Z_{ZT} @ I_{ZT}	Z_{ZK} @ I_{ZK}	I_{ZK}	I_R	V_R	
	(Volts)	(mA)	(Ohms)	(Ohms)	(mA)	(uA)	(Volts)	Ir - mA
CZRA4740	10	25	7	700	0.25	10	7.6	454
CZRA4741	11	23	8	700	0.25	5	8.4	414
CZRA4742	12	21	9	700	0.25	5	9.1	380
CZRA4743	13	19	10	700	0.25	5	9.9	344
CZRA4744	15	17	14	700	0.25	5	11.4	304
CZRA4745	16	15.5	16	700	0.25	5	12.2	285
CZRA4746	18	14	20	750	0.25	5	13.7	250
CZRA4747	20	12.5	22	750	0.25	5	15.2	225
CZRA4748	22	11.5	23	750	0.25	5	16.7	205
CZRA4749	24	10.5	25	750	0.25	5	18.2	190
CZRA4750	27	9.5	35	750	0.25	5	20.6	170
CZRA4751	30	8.5	40	1000	0.25	5	22.8	150
CZRA4752	33	7.5	45	1000	0.25	5	25.1	135
CZRA4753	36	7	50	1000	0.25	5	27.4	125
CZRA4754	39	6.5	60	1000	0.25	5	29.7	115
CZRA4755	43	6	70	1500	0.25	5	32.7	110
CZRA4756	47	5.5	80	1500	0.25	5	35.8	95
CZRA4757	51	5	95	1500	0.25	5	38.8	90
CZRA4758	56	4.5	110	2000	0.25	5	42.6	80
CZRA4759	62	4	125	2000	0.25	5	47.1	70
CZRA4760	68	3.7	150	2000	0.25	5	51.7	65
CZRA4761	75	3.3	175	2000	0.25	5	56	60
CZRA4762	82	3	200	3000	0.25	5	62.2	55
CZRA4763	91	2.8	250	3000	0.25	5	69.2	50
CZRA4764	100	2.5	350	3000	0.25	5	76	45

NOTE:

1. Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ± 5%.

2. Specials Available Include:
   A. Nominal zener voltages between the voltages shown and tighter voltage tolerances.
   B. Matched sets.

3. Zener Voltage (V_Z) Measurement. Guarantees the zener voltage when measured at 90 seconds while maintaining the lead temperature (T_L) at 30°C ± 1°C, from the diode body.

4. Zener Impedance (Z_Z) Derivation. The zener impedance is derived from the 60 cycle 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}.

5. Surge Current (Ir) Non-Repetitive. The rating listed in the electrical characteristics table is maximum peak, non-repetitive, reverse surge current of 1/2 square wave or equivalent sine wave pulse of 1/120 second duration superimposed on the test current, I_{ZT}, per JEDEC registration; however, actual device capability is as described in Figure 5.

RATING AND CHARACTERISTICS CURVES
CZRA4740 THRU CZRA4764

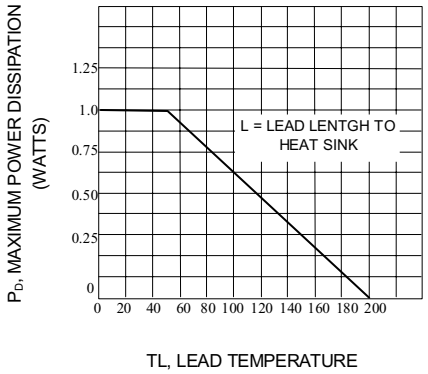


Fig. 1-POWER TEMPERATURE DERATING CURVE

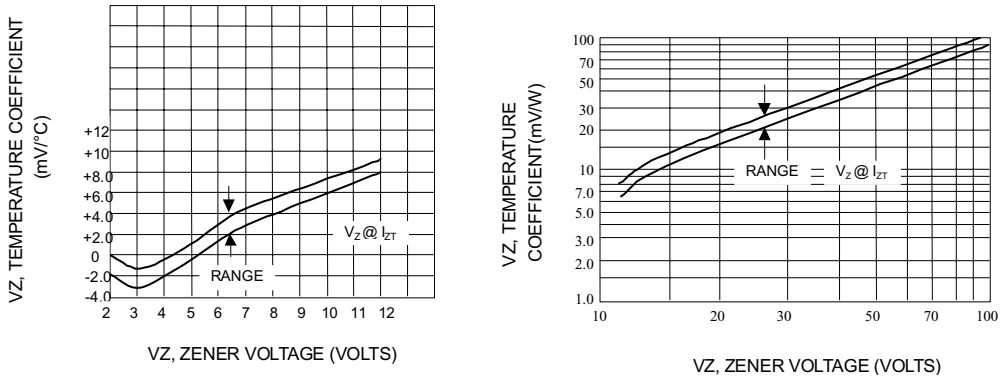


Fig. 2-TEMPERATURE COEFFICIENTS
(-55°C TO +150°C TEMPERATURE RANGE; 90% OF THE UNITS ARE IN THE RANGES INDICATED.)

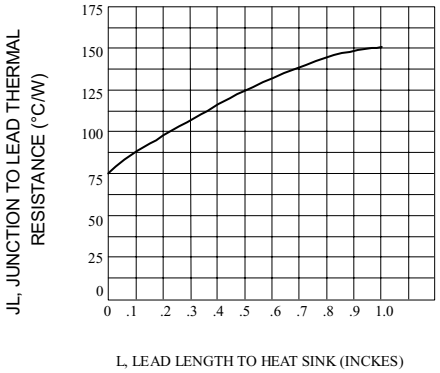


Fig.3-TYPICAL THERMAL RESISTANCE VERSUS LEAD LENGTH

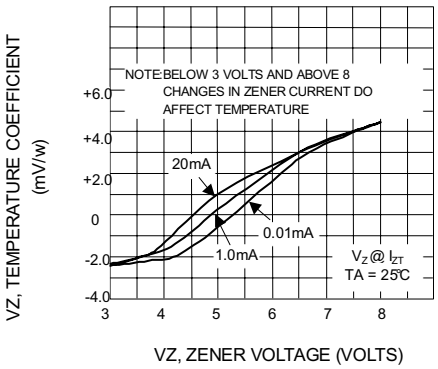
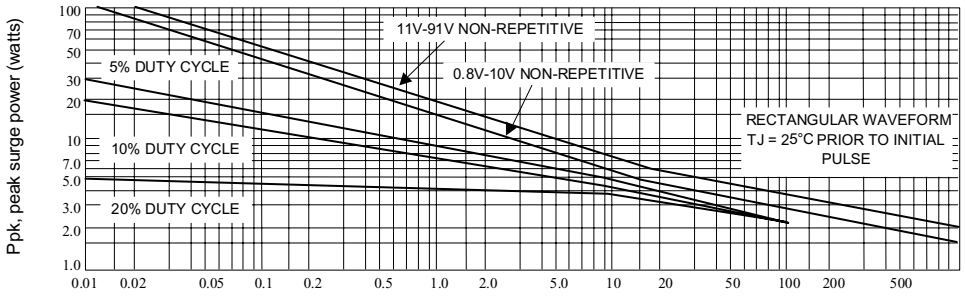


Fig. 4-EFFECT OF ZENER CURRENT

RATING AND CHARACTERISTICS CURVES
CZRA4740 THRU CZRA4764



This graph represents 90 percentile data point.
For worst-case design characteristics, multiply surge power by 2/3

Fig. 5-MAXIMUM SURGE POWER

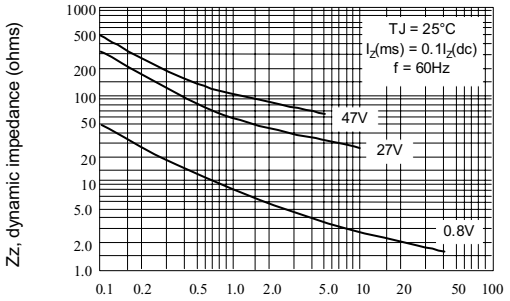


Fig. 6-EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE

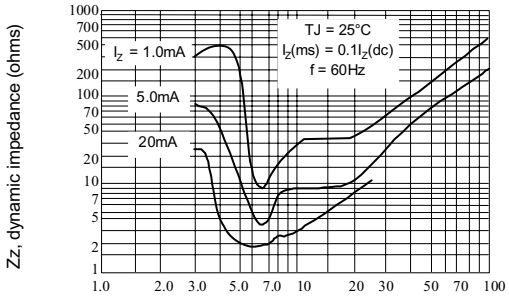


Fig. 7-EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE