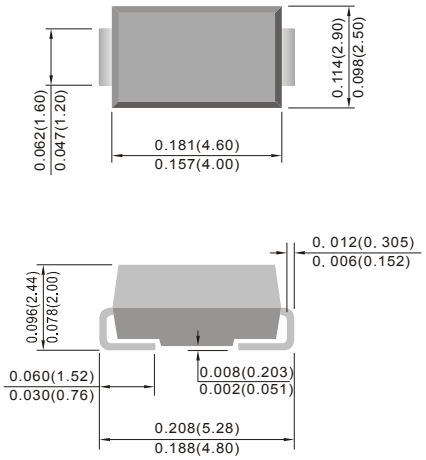
1SMA5921-AU~1SMA5942-AU

SURFACE MOUNT SILICON ZENER DIODE

VOLTAGE 6.8 to 51 Volts **POWER** 1.5 Watts

SMA / DO-214AC Unit : inch(mm)



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 1.0μA above 12V
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Acqire quality system certificate : TS16949
- AEC-Q101 qualified
- Lead free in comply with EU RoHS 2002/95/EC directives

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 cathode end
- Standard Packaging: 12mm tape (EIA-481)
- Weight: 0.0023 ounce, 0.0679 gram

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on T_L=75 °C (Note A) Derate above 75 °C	P_D	1.5	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I_{FSM}	10	Amps
Operating Junction and StorageTemperature Range	T_J , T_{STG}	-55 to +150	°C

NOTES:

A.Mounted on 5.0mm2 (.013mm thick) land areas.

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

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Part Number	Nominal Zener Voltage			Maximum Zener Impedance				Max. Reverse Leakage Current		Marking Code
	V_Z @ I_{ZT}			Z_{ZT} @ I_{ZT}		Z_{ZK} @ I_{ZK}		I_R	V_R	
	Nom V	MinV	Max V	Ω	mA	Ω	mA	μA	V	
1SMA5921-AU	6.8	6.46	7.14	3	55.1	200	1	5	5.2	921A
1SMA5922-AU	7.5	7.13	7.88	3	50	400	0.5	5	6	922A
1SMA5923-AU	8.2	7.79	8.61	4	45.7	400	0.5	5	6.5	923A
1SMA5924-AU	9.1	8.65	9.56	4	41.2	500	0.5	5	7	924A
1SMA5925-AU	10	9.5	10.5	5	37.5	500	0.25	5	8	925A
1SMA5926-AU	11	10.45	11.55	6	34.1	550	0.25	1	8.4	926A
1SMA5927-AU	12	11.4	12.6	7	31.2	550	0.25	1	9.1	927A
1SMA5928-AU	13	12.35	13.65	7	28.8	550	0.25	1	9.9	928A
1SMA5929-AU	15	14.25	15.75	9	25	600	0.25	1	11.4	929A
1SMA5930-AU	16	15.2	16.8	10	23.4	600	0.25	1	12.2	930A
1SMA5931-AU	18	17.1	18.9	12	20.8	650	0.25	1	13.7	931A
1SMA5932-AU	20	19	21	14	18.7	650	0.25	1	15.2	932A
1SMA5933-AU	22	20.9	23.1	18	17	650	0.25	1	16.7	933A
1SMA5934-AU	24	22.8	25.2	19	15.6	700	0.25	1	18.2	934A
1SMA5935-AU	27	25.65	28.35	23	13.9	700	0.25	1	20.6	935A
1SMA5936-AU	30	28.5	31.5	26	12.5	750	0.25	1	22.8	936A
1SMA5937-AU	33	31.35	34.65	33	11.4	800	0.25	1	25.1	937A
1SMA5938-AU	36	34.2	37.8	38	10.4	850	0.25	1	27.4	938A
1SMA5939-AU	39	37.05	40.95	45	9.6	900	0.25	1	29.7	939A
1SMA5940-AU	43	40.85	45.15	53	8.7	950	0.25	1	32.7	940A
1SMA5941-AU	47	44.65	49.35	67	8	1000	0.25	1	35.8	941A
1SMA5942-AU	51	48.45	53.55	70	7.3	1100	0.25	1	38.8	942A

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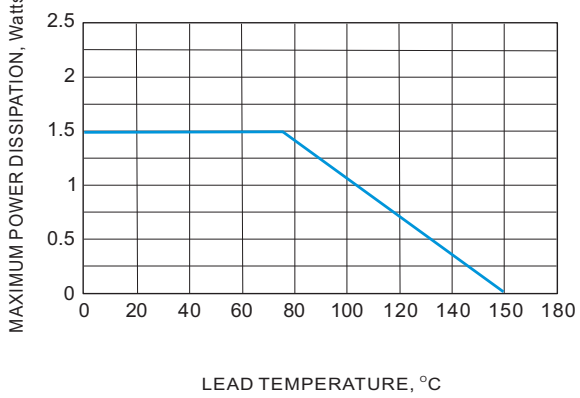

Fig.1 Steady State Power Derating

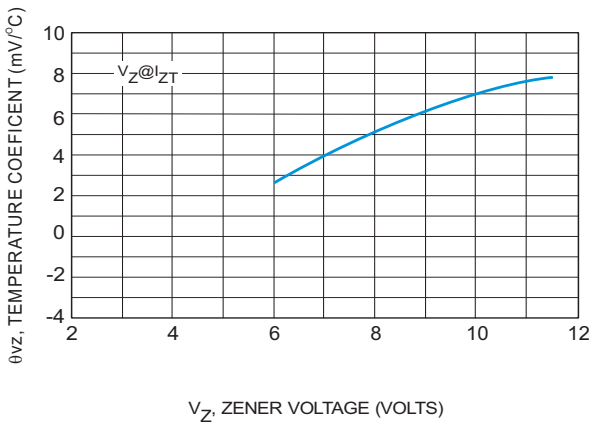

Fig.2 Zener Voltage - to 12 volts

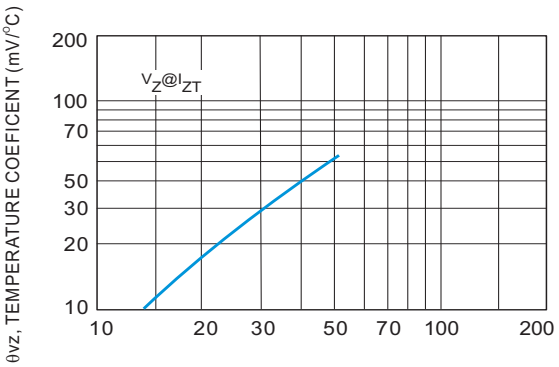

Fig.3 Zener Voltage - 14 to 200 Volts

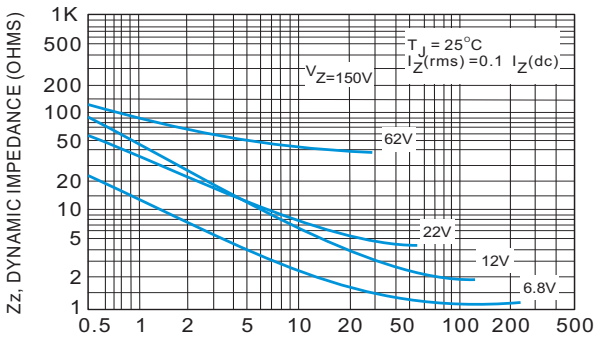

Fig.4 Effect of Zener Current

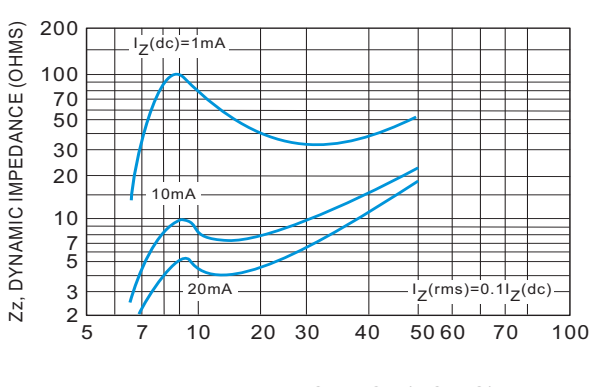

Fig.5 Effect of Zener Voltage

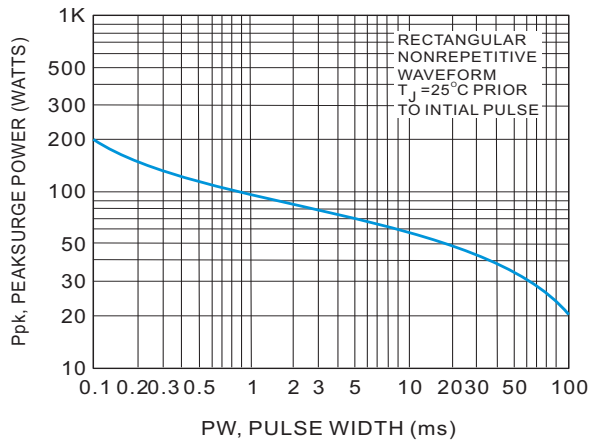

Fig.6 Maximum Surge Power

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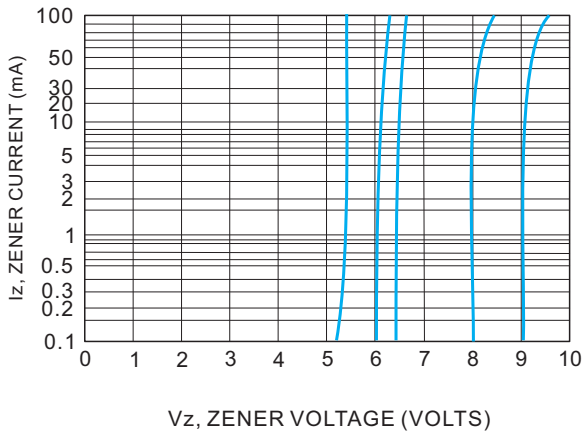

Fig.7 Vz = 6.8 thru 10 Volts

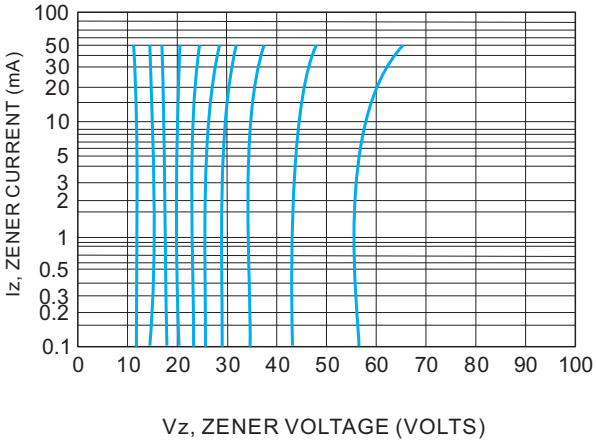

Fig.8 Vz = 12 thru 82 Volts

NOTE 3. ZENER VOLTAGE (Vz) MEASUREMENT
Nominal zener voltage is measured with the device function in thermal equilibrium with ambient temperature at 25°C

NOTE 4. ZENER IMPEDANCE (Zz) DERIVATION
Zzt and Zzk are measured by dividing the ac voltage drop across the device by the accurrent applied. The specified limits are for Iz(ac) = 0.1 Iz, (dc) with the ac freqency = 60Hz

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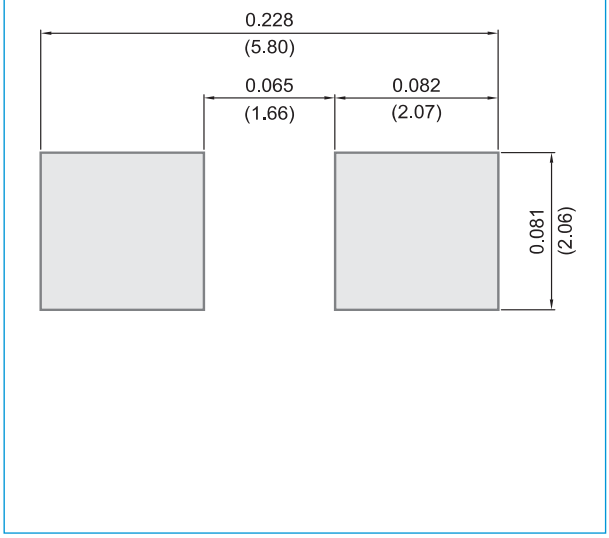
MOUNTING PAD LAYOUT

SMA Unit: inch (mm)



ORDER INFORMATION

- Packing information

  T/R - 7.5K per 13" plastic Reel

  T/R - 1.8Kper 7" plastic Reel

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Part No_packing code_Version

1SMA5921-AU_R1_000A1
1SMA5921-AU_R1_000A1
1SMA5921-AU_R2_000A1
1SMA5921-AU_R2_000A1

For example :

RB500V-40_R2_00001

- RB500V-40 — Part No.
- R2 — Packing type means T/R
- R2 — Packing size code means 13"
- 00001 — Version code means HF
- 00001 — Serial number

Packing Code XX				Version Code XXXXX		
Packing type	1st Code	Packing size code	2nd Code	HF or RoHS	1st Code	2nd~5th Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			

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