



**THE DATASHEET OF  
1SMA4742\_R1\_00001**





# 1SMA4728~1SMA4757

## SURFACE MOUNT SILICON ZENERDIODE

**VOLTAGE** 3.3 to 51 Volt    **POWER** 1 Watt

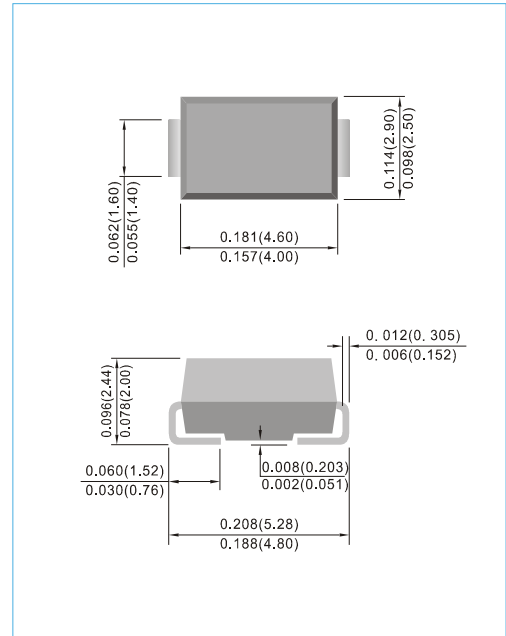
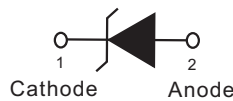
**SMA / DO-214AC**    Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### 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 ounces, 0.0679 grams



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on $T_A = 50^\circ\text{C}$ (Notes A) Derate above 50 °C	$P_D$	1.0	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	$I_{FSM}$	10	Amps
Typical Thermal Resistance (Notes D)	$R_{\theta JA}$	150	°C/W
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to + 150	°C

### NOTES:

- Mounted on 5mm<sup>2</sup> (0.013mm thick) land areas.
- Measured on 8.3ms, and single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.
- Tolerance and Type Number Designation. The type numbers listed have a standard tolerance on the nominal zener voltage of ± 5%.
- Mounted on minimum recommended pad layout.



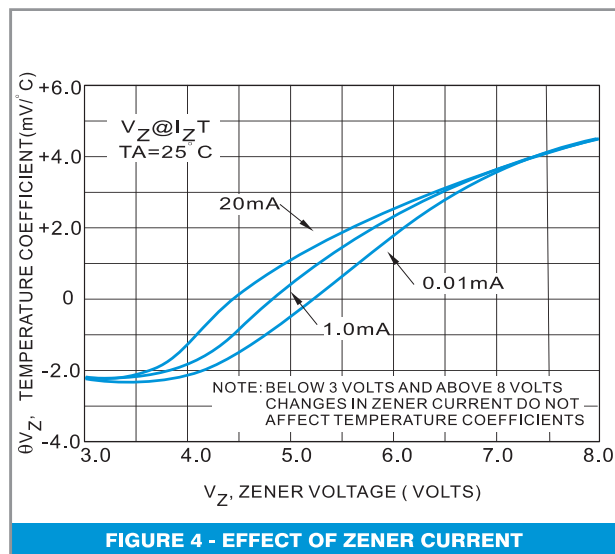
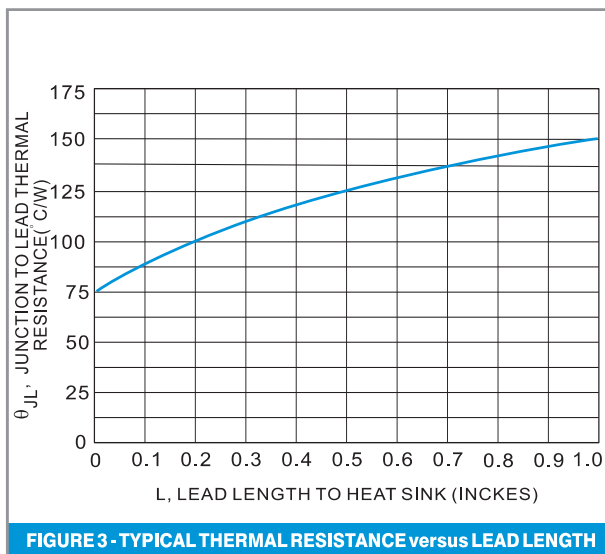
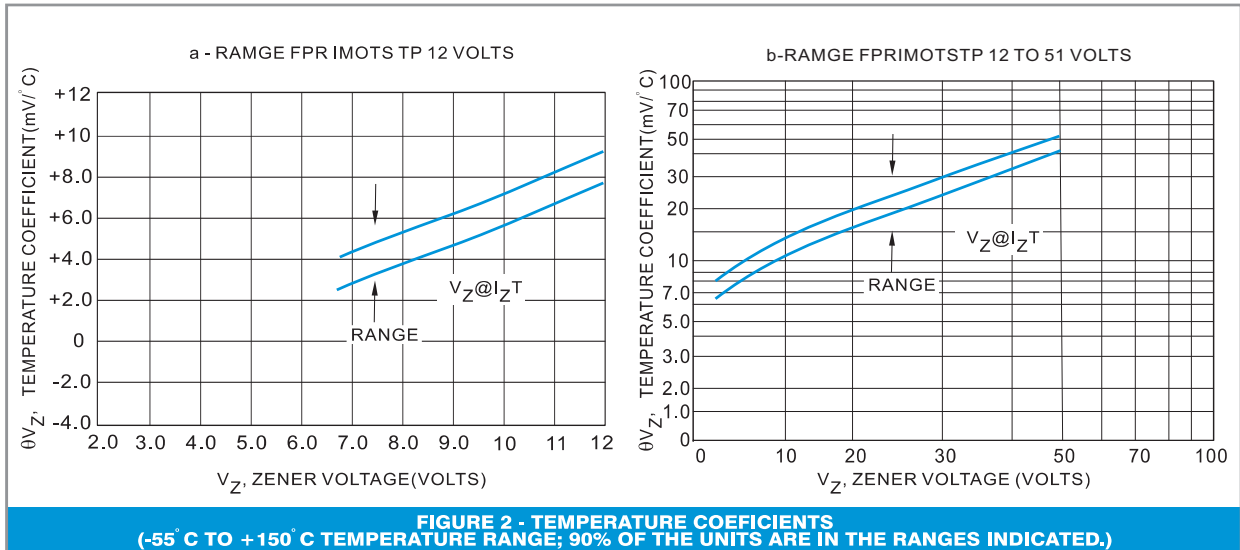
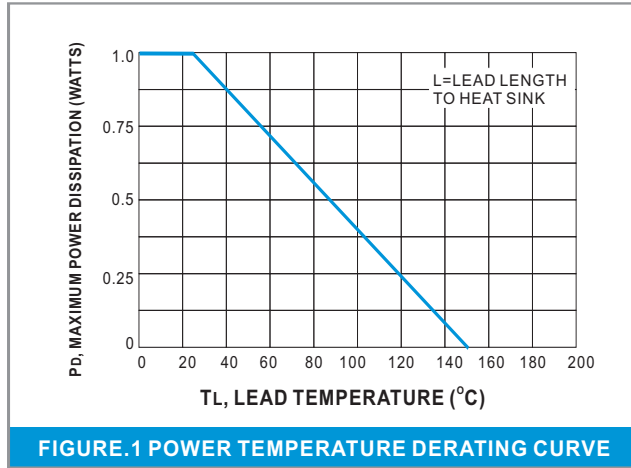
## 1SMA4728~1SMA4757

Part Number	Nominal Zener Voltage			Maximum Zener Impedance				Max Reverse Leakage Current		Marking Code
	V <sub>Z</sub> @ I <sub>ZT</sub>			Z <sub>ZT</sub> @ I <sub>ZT</sub>		Z <sub>ZK</sub> @ I <sub>ZK</sub>		I <sub>R</sub> @ V <sub>R</sub>		
	Nom. V	Min. V	Max. V	Ω	mA	Ω	mA	μA Max.	V	
1SMA4728	3.3	3.1	3.5	10	76	400	1	100	1	728B
1SMA4730	3.9	3.7	4.1	9	64	400	1	50	1	730B
1SMA4731	4.3	4.1	4.5	9	58	400	1	10	1	731B
1SMA4732	4.7	4.5	4.9	8	53	500	1	10	1	732B
1SMA4733	5.1	4.8	5.4	7	49	550	1	10	1	733B
1SMA4734	5.6	5.3	5.9	5	45	600	1	10	2	734B
1SMA4735	6.2	5.9	6.5	2	41	700	1	10	3	735B
1SMA4736	6.8	6.46	7.14	3.5	37	700	1	5	4	736B
1SMA4737	7.5	7.13	7.88	4	34	700	0.5	5	5	737B
1SMA4738	8.2	7.79	8.61	4.5	31	700	0.5	5	6	738B
1SMA4739	9.1	8.65	9.56	5	28	700	0.5	0.5	7	739B
1SMA4740	10	9.5	10.5	7	25	700	0.25	0.5	7.6	740B
1SMA4741	11	10.45	11.55	8	23	700	0.25	0.1	8.4	741B
1SMA4742	12	11.4	12.6	9	21	700	0.25	0.1	9.1	742B
1SMA4743	13	12.35	13.65	10	19	700	0.25	0.1	9.9	743B
1SMA4744	15	14.25	15.75	14	17	700	0.25	0.1	11.4	744B
1SMA4745	16	15.2	16.8	16	15.5	700	0.25	0.1	12.2	745B
1SMA4746	18	17.1	18.9	20	14	750	0.25	0.1	13.7	746B
1SMA4747	20	19	21	22	12.5	750	0.25	0.1	15.2	747B
1SMA4748	22	20.9	23.1	23	11.5	750	0.25	0.1	16.7	748B
1SMA4749	24	22.8	25.2	25	10.5	750	0.25	0.1	18.2	749B
1SMA4750	27	25.65	28.35	35	9.5	750	0.25	0.1	20.6	750B
1SMA4751	30	28.5	31.5	40	8.5	1000	0.25	0.1	22.8	751B
1SMA4752	33	31.35	34.65	45	7.5	1000	0.25	0.1	25.1	752B
1SMA4753	36	34.2	37.8	50	7	1000	0.25	0.1	27.4	753B
1SMA4754	39	37.05	40.95	60	6.5	1000	0.25	0.1	29.7	754B
1SMA4755	43	40.85	45.15	70	6	1500	0.25	0.1	32.7	755B
1SMA4756	47	44.65	49.35	80	5.5	1500	0.25	0.1	35.8	756B
1SMA4757	51	48.45	53.55	95	5	1500	0.25	0.1	38.8	757B



# 1SMA4728~1SMA4757

## RATING AND CHARACTERISTICS CURVES



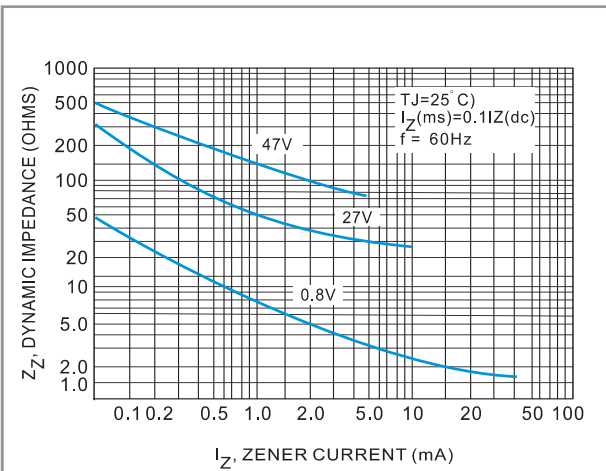


# 1SMA4728~1SMA4757

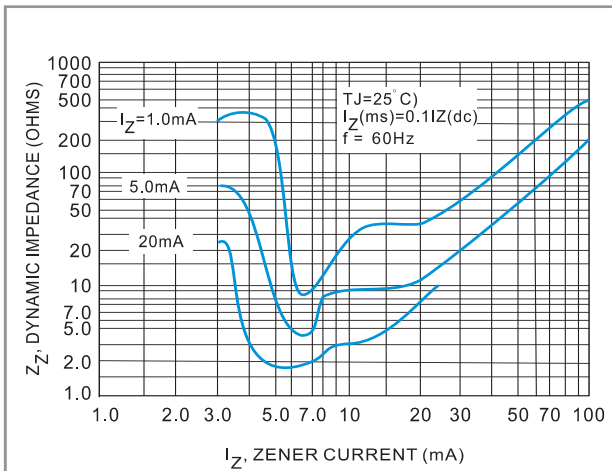


This graph represents 90 percentile data points.  
FOR worst-case design characteristics, multiply surge power by 2/3

**FIGURE 5 - MAXIMUM SURGE POWER**



**FIGURE 6 - EFFECT OF ZENER CURRENT ON ZENER IMPEDANCE**



**FIGURE 7 - EFFECT OF ZENER VOLTAGE ON ZENER IMPEDANCE**



# 1SMA4728~1SMA4757



**FIGURE 8 - TYPICAL LEAKAGE CURRENT**



**FIGURE 9 - TYPICAL CAPACITANCE versus  $V_Z$**



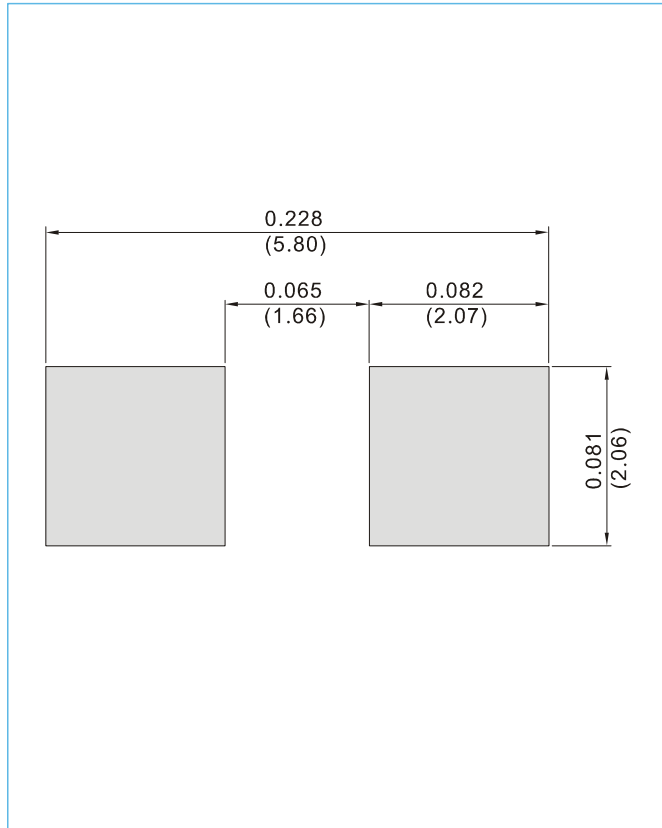
**FIGURE 10 - TYPICAL FORWARD CHARACTERISTICS**



# 1SMA4728~1SMA4757

## MOUNTING PAD LAYOUT

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



## ORDER INFORMATION

- Packing information  
T/R - 7.5K per 13" plastic Reel  
T/R - 1.8K per 7" plastic Reel



# 1SMA4728~1SMA4757

**Part No\_packing code\_Version**

1SMA4728\_R1\_00001

1SMA4728\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



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



## 1SMA4728~1SMA4757



---

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

## Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View 1SMA4742\\_R1\\_00001 on WIN SOURCE](#)
-  [Panjit Information](#)

## Optimize Your Supply Chain with WIN SOURCE Solutions

-  Global Sourcing Solution
-  Obsolete Management
-  Cost Control Management
-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management