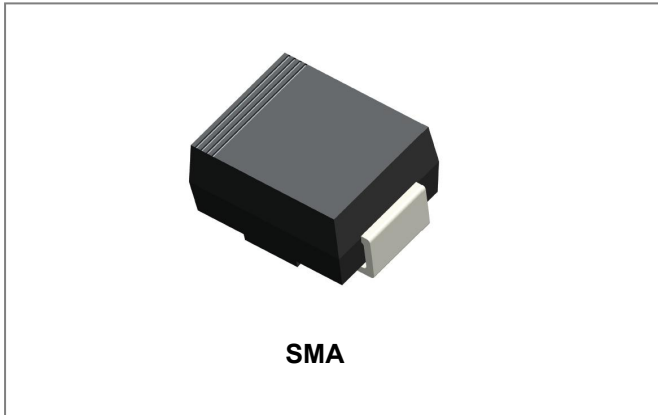


## 1SMA4741-1SMA4764 SURFACE MOUNT ZENER DIODE



### Features

- Glass Passivated Die Construction
- 1.0W Power Dissipation
- 11 - 100V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Low Inductance
- Typical IR Less Than 5.0  $\mu$ A Above 11V
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- "-A" suffix is for Automotive qualified
- This is a Pb - Free Device
- All SMC parts are traceable to the wafer lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: SMA molded plastic body
- Terminals: Solder Plated, Solderable per MIL-STD-202, Method 208
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.06 grams

### Maximum Ratings@T<sub>A</sub>=25°C unless otherwise specified

Parameter	Symbol	Value	Units
Power Dissipation (Note 1) Derate Above 25°C	P <sub>D</sub>	1.0 8.0	W mW/°C
Forward Voltage @ I <sub>F</sub> = 200mA	V <sub>F</sub>	1.2	V
Typical Thermal resistance junction to Ambient (Note 1)	R <sub>θJA</sub>	120	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 150	°C

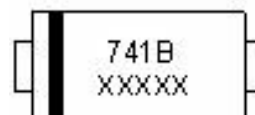
Notes: 1. Valid provided that device terminals are kept at ambient temperature

### Ordering Information

Device	Package	Shipping
1SMA4741- 1SMA4764	SMA (Pb-Free)	5000pcs / reel
1SMA4741TR- 1SMA4764TR	SMA (Pb-Free)	5000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

### Marking Diagram



Where XXXXX is YYWWL

741B = Marking Code

YY = Year

WW = Week

L = Lot Number

Cautions: Molding resin  
Epoxy resin UL:94V-0

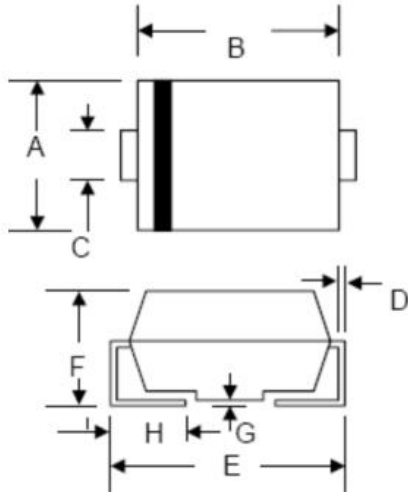
- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

## Ratings and Characteristics Curves

Type Number (Note 1)	Device Marking Code	Nominal Zener Voltage (Note 2)	Test Current	Maximum Zener Impedance (Note 3)			Leakage Current		Max. Surge Current 8.3ms
		Vz @ Izt	Izt	Zzt @ Izt	Zzk @ Izk	Izk	I <sub>r</sub>	@ Vr	I <sub>zs</sub>
		(V)	(mA)	(Ω)	(Ω)	(mA)	(μA)	(V)	(mA)
1SMA4741	741B	11	23	8.0	700	0.25	5.0	8.4	414
1SMA4742	742B	12	21	9.0	700	0.25	5.0	9.1	380
1SMA4743	743B	13	19	10	700	0.25	5.0	9.9	344
1SMA4744	744B	15	17	14	700	0.25	5.0	11.4	305
1SMA4745	745B	16	15.5	16	700	0.25	5.0	12.2	285
1SMA4746	746B	18	14	20	750	0.25	5.0	13.7	250
1SMA4747	747B	20	12.5	22	750	0.25	5.0	15.2	225
1SMA4748	748B	22	11.5	23	750	0.25	5.0	16.7	205
1SMA4749	749B	24	10.5	25	750	0.25	5.0	18.2	190
1SMA4750	750B	27	9.5	35	750	0.25	5.0	20.6	170
1SMA4751	751B	30	8.5	40	1000	0.25	5.0	22.8	150
1SMA4752	752B	33	7.5	45	1000	0.25	5.0	25.1	135
1SMA4753	753B	36	7.0	50	1000	0.25	5.0	27.4	125
1SMA4754	754B	39	6.5	60	1000	0.25	5.0	29.7	115
1SMA4755	755B	43	6.0	70	1500	0.25	5.0	32.7	110
1SMA4756	756B	47	5.5	80	1500	0.25	5.0	35.8	95
1SMA4757	757B	51	5.0	95	1500	0.25	5.0	38.8	90
1SMA4758	758B	56	4.5	110	2000	0.25	5.0	42.6	80
1SMA4759	759B	62	4.0	125	2000	0.25	5.0	47.1	70
1SMA4760	760B	68	3.7	150	2000	0.25	5.0	51.7	65
1SMA4761	761B	75	3.3	175	2000	0.25	5.0	56.0	60
1SMA4762	762B	82	3.0	200	3000	0.25	5.0	62.2	55
1SMA4763	763B	91	2.8	250	3000	0.25	5.0	69.2	50
1SMA4764	764B	100	2.5	350	3000	0.25	5.0	76.0	45

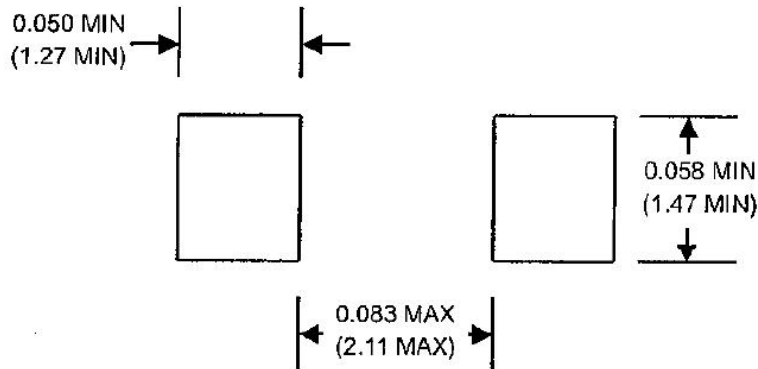
- ote: 1. Type numbers listed have standard tolerance on the nominal Zener voltage of  $\pm 5\%$ .  
 2. Measured under thermal equilibrium and DC (Izt) test conditions.  
 3. The Zener impedance is derived from the 60Hz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (Izt or Izk) is superimposed on Izt or Izk. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units.

**Mechanical Dimensions SMA**

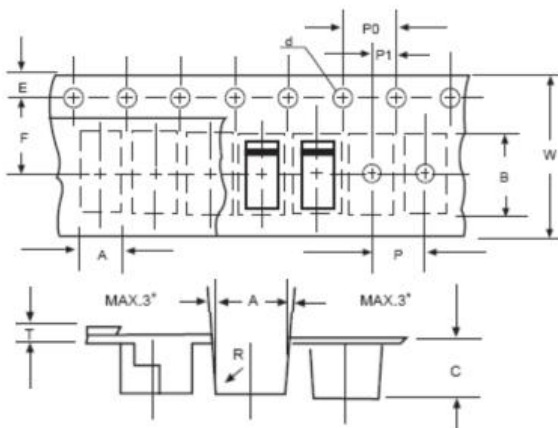


SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.18	2.84	0.086	0.112
B	3.99	4.75	0.157	0.187
C	1.05	1.70	0.041	0.067
D	0.15	0.51	0.006	0.020
E	4.70	5.66	0.185	0.223
F	1.70	2.95	0.067	0.116
G	0.05	0.203	0.002	0.008
H	0.76	1.52	0.030	0.600

**Recommended Footprint (Inches/Millimeters)**



**Carrier Tape Specification SMA**



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20

**DISCLAIMER:**

1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).

2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.

3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.

4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.

5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.

6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.

7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..