Surface Mount Zener Diodes



SMA (DO-214AC)

FEATURES

- Plastic package has underwriters laboratory flammability classification 94 V-0
- For surface mounted applications
- Low Zener impedance
- Low regulation factor
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- Standard voltage tolerance is ± 10 %, suffix A ± 5 %
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

RoHS COMPLIANT

DESIGN SUPPORT TOOLS

click logo to get started

3D Models Available

MECHANICAL DATA

Base P/N-E3 - RoHS-compliant, commercial grade

Base P/NHE3 - RoHS-compliant, AEC-Q101 qualified

PRIMARY CHARACTERISTICS		
PARAMETER	VALUE	UNIT
V_Z range nom.	8.2 to 100	V
Test current I_{ZT}	2.5 to 31	mA
V_Z specification	Pulse current	
Circuit configuration	Single	

ORDERING INFORMATION			
DEVICE NAME	ORDERING CODE	TAPED UNITS PER REEL	MINIMUM ORDER QUANTITY
SML4738 to SML4764A	SML4738-E3/5A	7500 (12 mm tape on 13" plastic reel)	7500
	SML4738HE3/5A		
SML4738 to SML4764A	SML4738-E3/61	1800 (12 mm tape on 7" plastic reel)	1800
	SML4738HE3/61		

PACKAGE				
PACKAGE NAME	WEIGHT	MOLDING COMPOUND FLAMMABILITY RATING	MOISTURE SENSITIVITY LEVEL	SOLDERING CONDITIONS
SMA (DO-214AC)	64 mg	UL 94 V-0	MSL level 1 (according J-STD-020)	260 °C/10 s at terminals

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Power dissipation	T_L = 75 °C	P_{tot}	1000	mW
Junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-65 to +150	°C

www.datasheet.live

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PART NUMBER	MARKING CODE	ZENER VOLTAGE RANGE	TEST CURRENT		REVERSE CURRENT		DYNAMIC RESISTANCE		SURGE CURRENT (1)
		V_Z at I_{ZT1}	I_{ZT1}	I_{ZT2}	I_R at V_R		Z_Z at I_{ZT1}	Z_{ZK} at I_{ZT2}	I_{RM}
		V	mA		µA	V	Ω		mA_{pk}
		NOM.			MAX.		MAX.	MAX.	MAX.
SML4738	8P2	8.2	31	0.5	10	6	4.5	700	550
SML4739	9P1	9.1	28	0.5	10	7	5	700	500
SML4740	10	10	25	0.25	10	7.6	7	700	454
SML4741	11	11	23	0.25	5	8.4	8	700	414
SML4742	12	12	21	0.25	5	9.1	9	700	380
SML4743	13	13	19	0.25	5	9.9	10	700	344
SML4744	15	15	17	0.25	5	11.4	14	700	305
SML4745	16	16	15.5	0.25	5	12.2	16	700	285
SML4746	18	18	14	0.25	5	13.7	20	750	250
SML4747	20	20	12.5	0.25	5	15.2	22	750	225
SML4748	22	22	11.5	0.25	5	16.7	23	750	205
SML4749	24	24	10.5	0.25	5	18.2	25	750	190
SML4750	27	27	9.5	0.25	5	20.6	35	750	170
SML4751	30	30	8.5	0.25	5	22.8	40	1000	150
SML4752	33	33	7.5	0.25	5	25.1	45	1000	135
SML4753	36	36	7	0.25	5	27.4	50	1000	125
SML4754	39	39	6.5	0.25	5	29.7	60	1000	115
SML4755	43	43	6	0.25	5	32.7	70	1500	110
SML4756	47	47	5.5	0.25	5	35.8	80	1500	95
SML4757	51	51	5	0.25	5	38.8	95	1500	90
SML4758	56	56	4.5	0.25	5	42.6	110	2000	80
SML4759	62	62	4	0.25	5	47.1	125	2000	70
SML4760	68	68	3.7	0.25	5	51.7	150	2000	65
SML4761	75	75	3.3	0.25	5	56	175	2000	60
SML4762	82	82	3	0.25	5	62.2	200	3000	55
SML4763	91	91	2.8	0.25	5	69.2	250	3000	50
SML4764	100	100	2.5	0.25	5	76	350	3000	45

Note

(1) Surge current is a non-repetitive, 8.3 ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC® method

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

BASIC CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

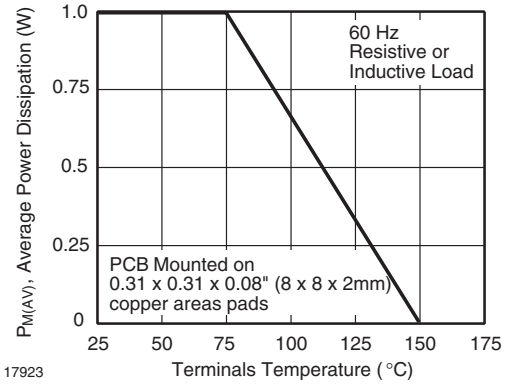


Fig. 1 - Maximum Continuous Power Dissipation

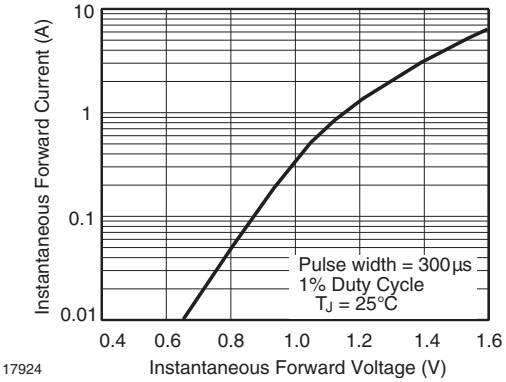


Fig. 4 - Typical Instantaneous Forward Characteristics for SML4763

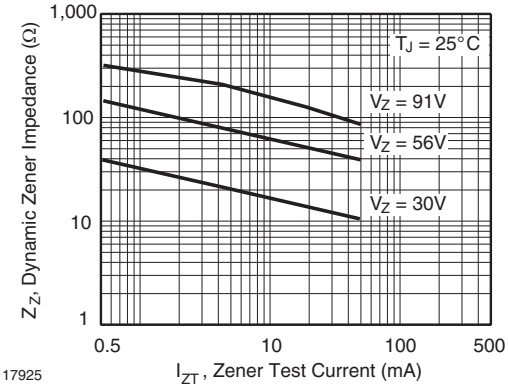


Fig. 2 - Typical Zener Impedance

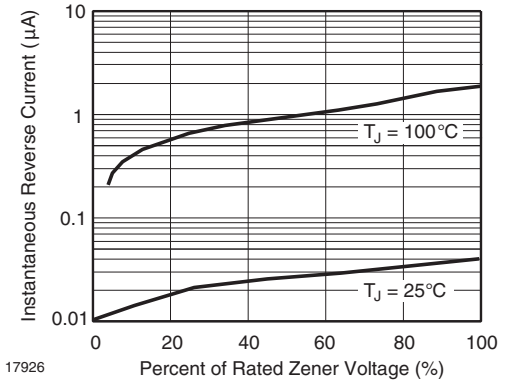


Fig. 5 - Typical Reverse Characteristics

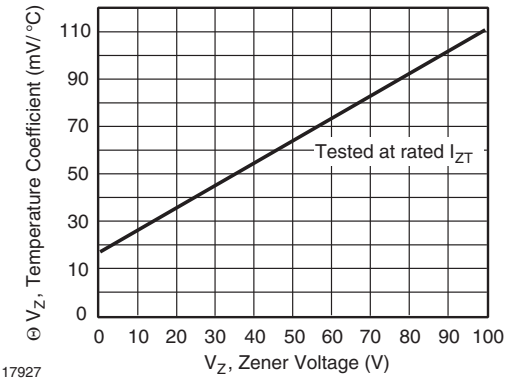
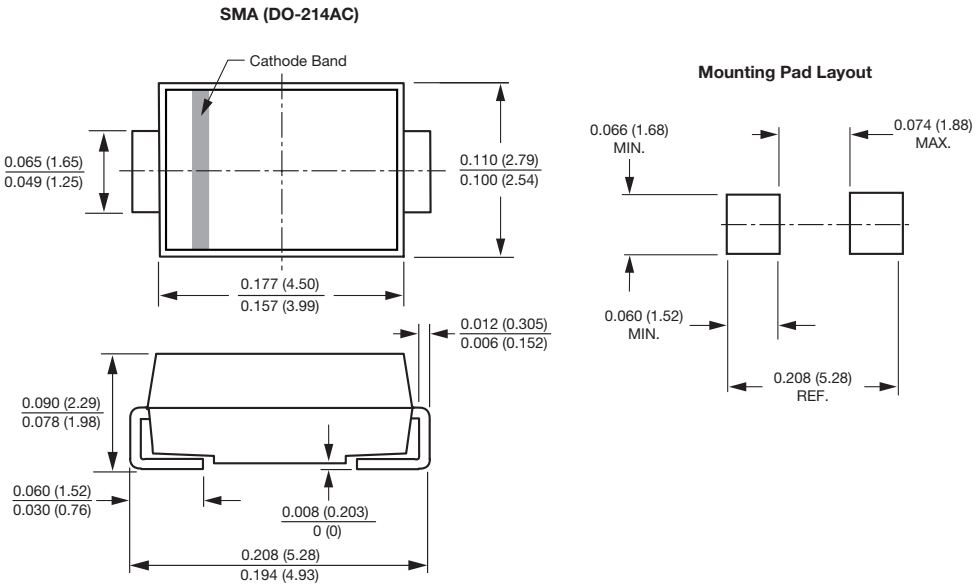


Fig. 3 - Typical Temperature Coefficients

For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

PACKAGE DIMENSIONS in inches (millimeters): **SMA (DO-214AC)**



For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay’s knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer’s responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer’s technical experts. Product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

© 2017 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

SML4751A-E3/61 SML4744A-E3/61 SML4764-E3/61 SML4759A-E3/61 SML4742-E3/61 SML4740A-E3/61 SML4756A-E3/61 SML4750/61 SML4755A-E3/61 SML4758A-E3/61 SML4740-E3/61 SML4758-E3/61 SML4754-E3/61 SML4742A-E3/61 SML4759-E3/61 SML4755-E3/61 SML4752-E3/61 SML4752A-E3/61 SML4743A-E3/61 SML4757A-E3/61 SML4753A-E3/61 SML4745A-E3/61 SML4748A-E3/61 SML4750-E3/61 SML4749A-E3/61 SML4756-E3/61 SML4761A-E3/61 SML4760-E3/61 SML4738-E3/61 SML4750A-E3/61 SML4739A-E3/61 SML4764A-E3/61 SML4741-E3/61 SML4749-E3/61 SML4751-E3/61 SML4762A-E3/61 SML4753-E3/61 SML4748-E3/61 SML4743-E3/61 SML4762-E3/61 SML4747A-E3/61 SML4744-E3/61 SML4738A-E3/61 SML4763-E3/61 SML4741A-E3/61 SML4760A-E3/61 SML4761-E3/61 SML4763A-E3/61 SML4757-E3/61 SML4739-E3/61 SML4746-E3/61 SML4746A-E3/61 SML4747-E3/61 SML4745-E3/61 SML4754A-E3/61 SML4742-E3/5A SML4750-E3/5A SML4738-E3/5A SML4738/5A SML4738/61 SML4738A-E3/5A SML4738A/5A SML4738A/61 SML4739-E3/5A SML4739/5A SML4739/61 SML4739A-E3/5A SML4739A/5A SML4739A/61 SML4740-E3/5A SML4740/5A SML4740/61 SML4740A-E3/5A SML4740A/5A SML4740A/61 SML4741-E3/5A SML4741/5A SML4741/61 SML4741A-E3/5A SML4741A/5A SML4741A/61 SML4742/5A SML4742/61 SML4742A-E3/5A SML4742A/5A SML4742A/61 SML4743-E3/5A SML4743/5A SML4743/61 SML4743A-E3/5A SML4743A/5A SML4743A/61 SML4744-E3/5A SML4744/5A SML4744/61 SML4744A-E3/5A SML4744A/5A SML4744A/61 SML4745-E3/5A SML4745/5A