FrelTec

Mathildenstr. 10A
82319 Starnberg
Germany

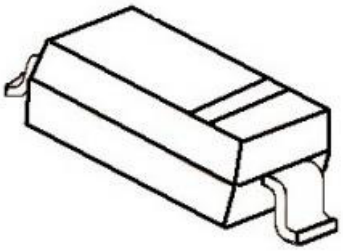
Transient Voltage Suppressors
SOD323

SPECIFICATION

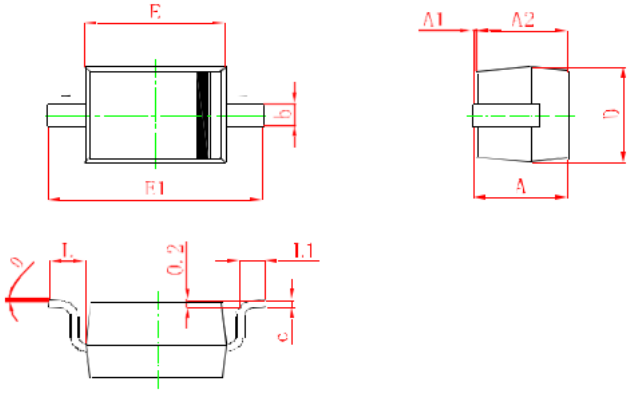
63A		ESD3Z__xxx		SD33		E03
Type		Type		Package		Packing
63A: TVS Diode		ESD3Z03 ESD3Z05 ESD3Z12 ESD3Z15 ESD3Z18 ESD3Z20 ESD3Z24 ESD3Z36		SOD323		E03: tape and Reel(embossed tape) for 3000 pc (7'REEL)

All products according to RoHS (2015/863/EU)

PACKAGE OUTLINE



DIMENSIONS



Symbol	Min.(mm)	Max.(mm)
A		1
A1	0	0,1
A2	0,8	0,9
b	0,25	0,35
c	0,08	0,15
D	1,2	1,4
E	1,6	1,8
E1	2,5	2,7
L	0,475REF	
L1	0,25	0,4
θ	0º	8º

MAXIMUM RATINGS AND THERMAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified

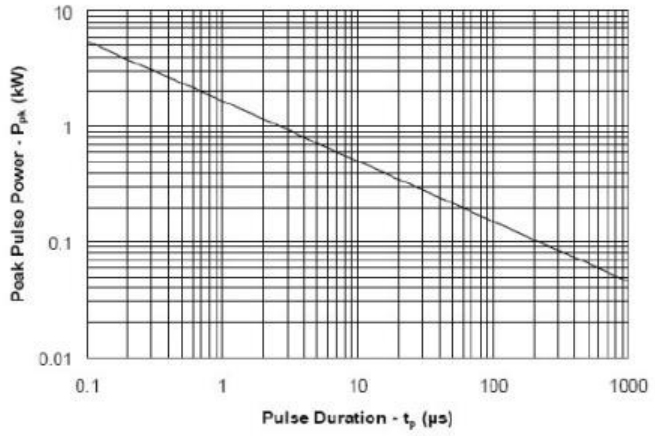
Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air) ESD per IEC61000-4-2(Contact)	V_{ESD}	±30	kV
Peak Pulse Power (8/20us)	P_{PP}	350	W
Operating temperature	T_{OPT}	-55-+150	°C
Storage temperature range	T_{STG}	-55-+150	°C
Lead Soldering temperature	T_L	260(10 sec.)	°C

Electrical Characteristics TA=25°C Unless otherwise specified

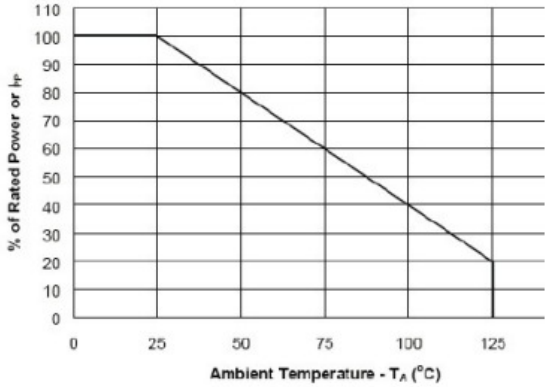
PART NUMBER	DEVICE MARKING	VRWM (V) (max.)	VB (V) (min.)	IT (mA)	Vc@1A (V) (max.)	Vc (V) (max.)	(@A)	IR (uA) (max.)	CT (pF) (max.)
ESD3Z03	03W	3,3	4	1	6,5	14	20	40	450
ESD3Z05	05W	5	6	1	9,8	18	17	10	300
ESD3Z12	12W	12	13,3	1	19	32	11	1	130
ESD3Z15	15W	15	16,7	1	24	38	10	1	120
ESD3Z18	18W	18	20,0	1	29	45	9	1	100
ESD3Z20	20W	20	22,3	1	35	50	8	1	90
ESD3Z24	24W	24	26,7	1	43	52	7	1	80
ESD3Z36	36W	36	40,0	1	60	75	5	1	60

ELECTRICAL CHARACTERISTICS CURVE

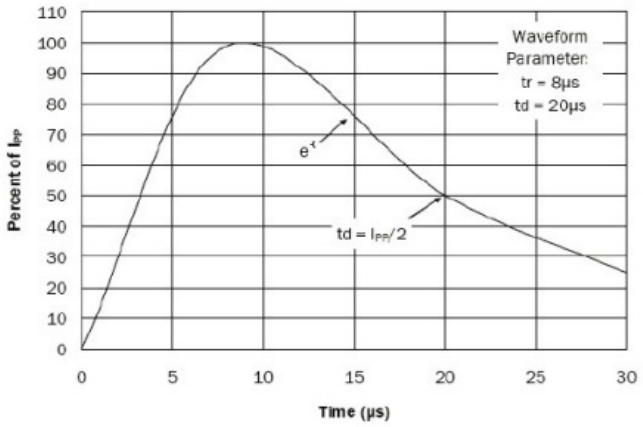
Non-Repetitive Peak Pulse Power vs. Pulse Time



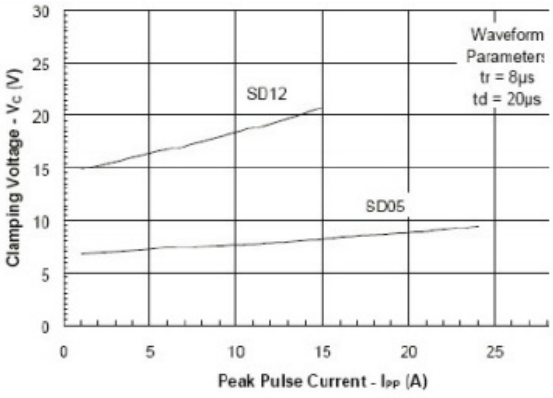
Power Derating Curve



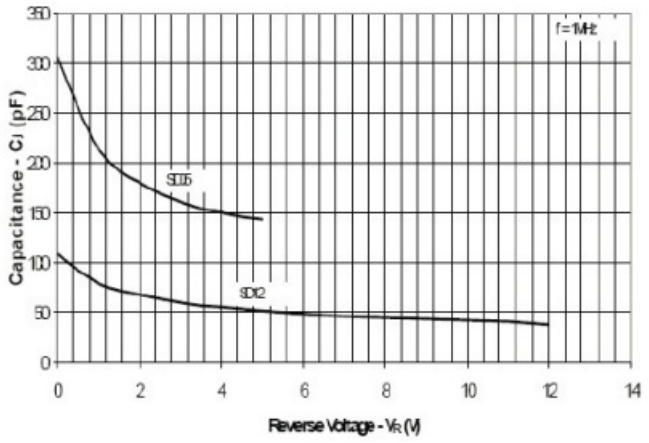
Pulse Waveform



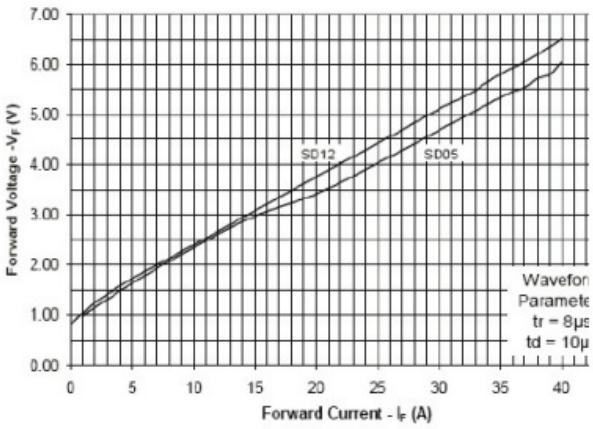
Clamping Voltage vs. Peak Pulse Curren



Capacitance vs. Reverse Voltage

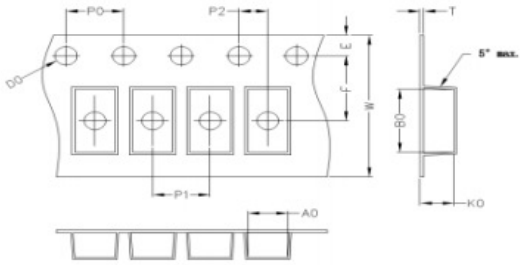


Forward Voltage vs. Forward Current



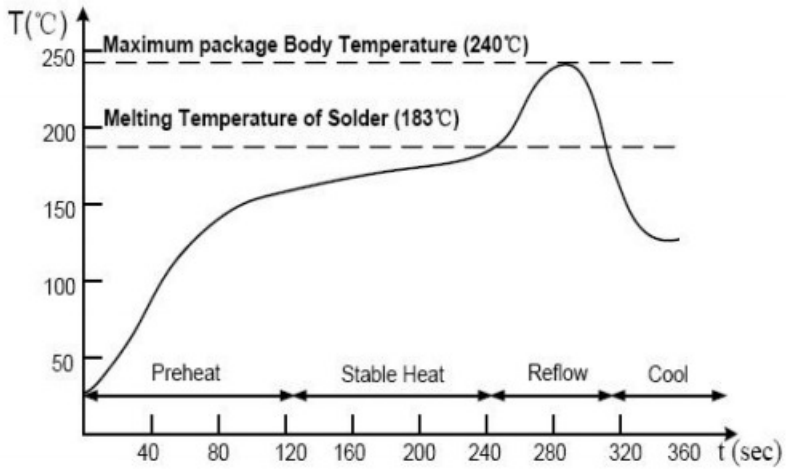
Package Information

Carrier Dimension(mm)



A0	B0	K0	D0	E	F
2.15	3.95	1.35	1.55	1.75	3.50
P0	**P1**	**P2**	**T**	**W**	**Tolerance**
4.0	4.0	2.0	0.25	8	0.1

Suggested Soldering Temperature Profile



Note

- Recommended reflow methods: IR, vapor phase oven, hot air oven, wave solder.
- The device can be exposed to a maximum temperature of 265°C for 10 seconds.
- Devices can be cleaned using standard industry methods and solvents.
- If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

Stock period

The performance of these products, including the solderability, is guaranteed for 12 months, provided that they remain packed as they were when delivered and stored at a temperature of 20-30°C and a relative humidity 20-60%RH

Published by FrelTec® GmbH
Mathildenstr. 10A; 82319 Starnberg; Germany

The following applies to all products named in this publication:

1. The information describes the type of component and shall not be considered as assured characteristics.
2. Terms of delivery and rights to change design reserved.
3. Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. Nevertheless, we explicitly point out that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. As a rule, FrelTec® is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a FrelTec® product with the properties described in the product specification is suitable for use in a particular customer application.
4. We also point out that in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
5. The warnings, cautions and product-specific notes must be observed.
6. In order to satisfy certain technical requirements, some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as “hazardous”). Useful information on this will be found in our Material Data Sheets. Should you have any more detailed questions, please contact our sales offices.
7. We constantly strive to improve our products. Consequently, the products described in this publication may change from time to time. The same is true for the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order. We also reserve the right to discontinue production and delivery of products. Consequently, we cannot guarantee that all products named in this publication will always be available.
8. Unless otherwise agreed in individual contracts, all orders are subject to the current version of the “General conditions for the supply of products and services of the electrical and electronics industry” published by the German Electrical and Electronics Industry Association (ZVEI), available at www.freltec.com.
9. As far as patents or other rights of third parties are concerned, liability is only assumed for components per se, not for applications, processes and circuits implemented within components or assemblies.
10. The trade name FrelTec® is a trademark registered or pending in Europe and in other countries.