

# FrelTec

Mathildenstr. 10A  
82319 Starnberg  
Germany

Super-Fast Recovery Rectifier  
SOD123

## SOD123

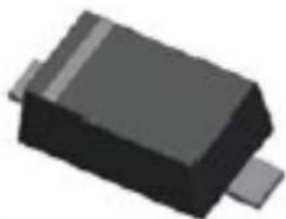
## SPECIFICATION

683	ES1_Lxxxxx	SD13	E03
Type	Type	Package	Packing
683: Super Fast Recovery Rectifier	ES1_L	SOD123	E03: tape in box (paper tape) for 3k pc (7'reel)

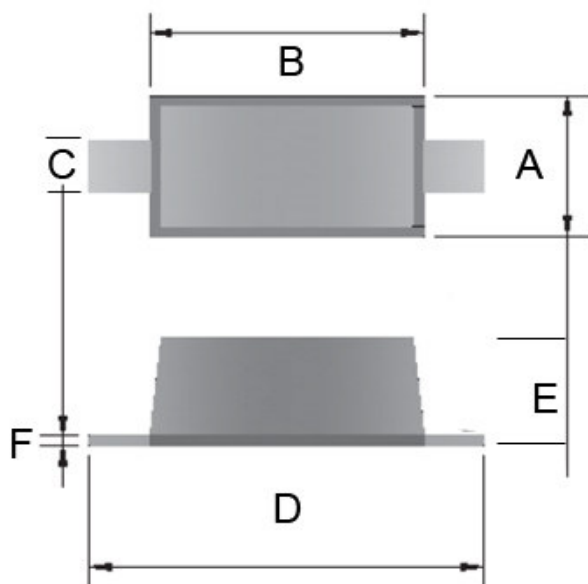
All products according to RoHS (2015/863/EU)

FrelTec

**PACKAGE OUTLINE**



**DIMENSIONS**



Dim	Min(mm)	Max(mm)
A	1,70	1,90
B	2,70	2,90
C	0,98	1,08
D	3,50	3,70
E	0,80	1,10
F	0,10	0,2

## SOD123

## Super Fast Recovery Rectifier

Maximum Ratings &amp; Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

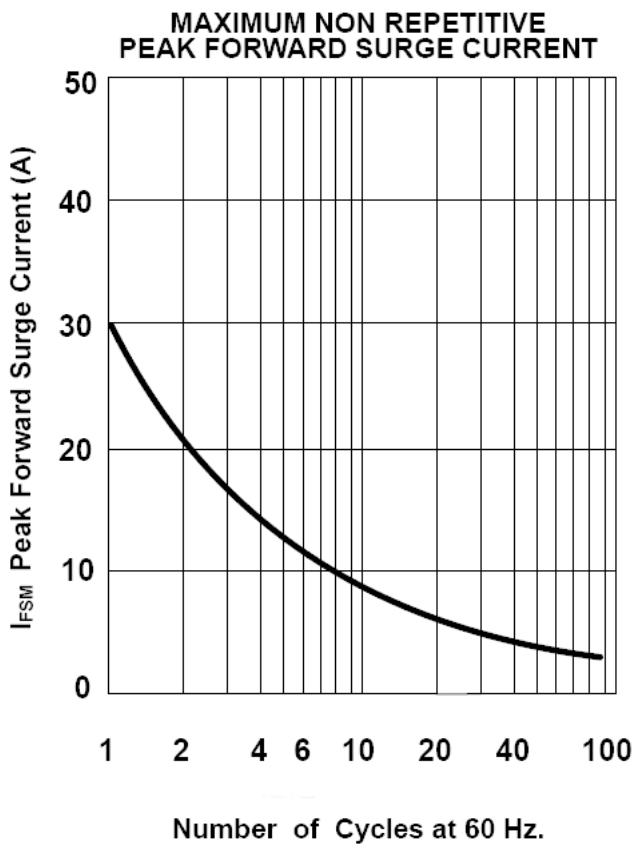
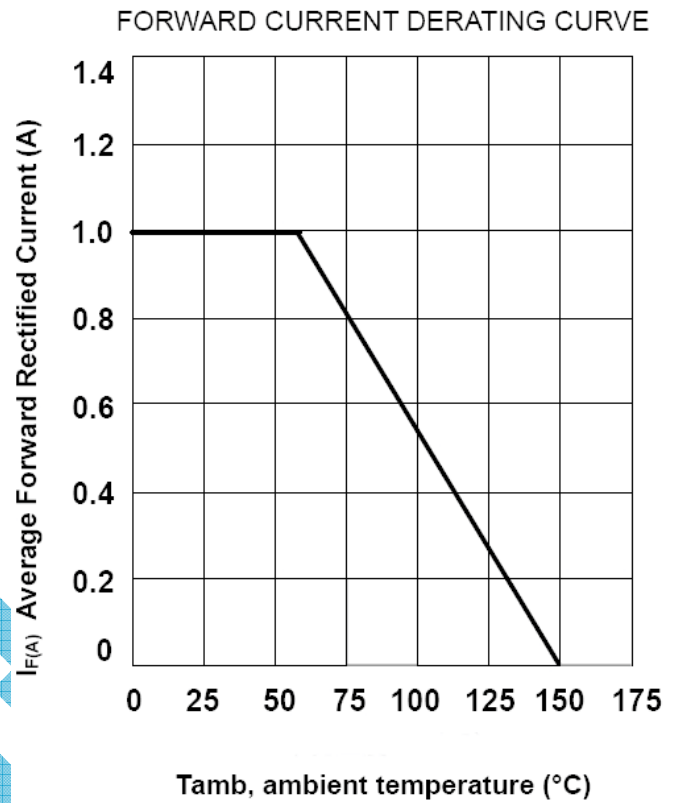
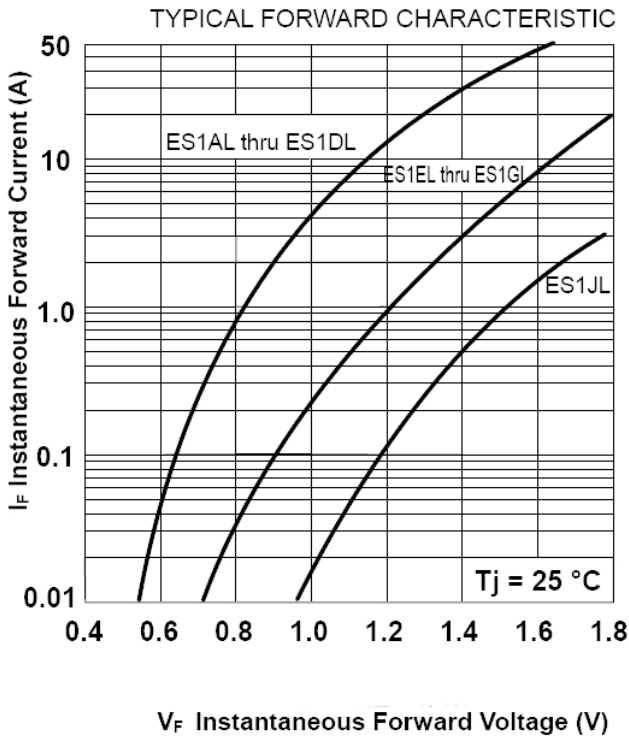
Parameter	Symbols	ES1	ES1	ES1	ES1	ES1	ES1	ES1	Unit
		AL	BL	CL	DL	EL	GL	JL	
Maximum repetitive peak reverse voltage	VRRM	50	100	150	200	300	400	600	V
Maximum RMS voltage	VRMS	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	VDC	50	100	150	200	300	400	600	V
Maximum average forward rectified current	IF(AV)	1,0							A
Peak forward surge current 8,3 ms single half sine-wave	IFSM	30							A
Typical thermal resistance	RθJA	85							°C/W
Operating junction and storage temperature range	Tj, TSTG	-55 --- +150							°C

Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbols	ES1	ES1	ES1	ES1	ES1	ES1	ES1	Unit	
		AL	BL	CL	DL	EL	GL	JL		
IF = 1,0A Maximum forward voltage	VF	0,95			1,25		1,7		V	
TA= 25°C Maximum reverse current TA=100°C	IR	5,0				100				µA
IF=0,5A IR=1,0A IRR=0,25A MAX. Reverse Recovery Time	trr	35								nS
VR = 4,0V, f = 1MHz Type junction capacitance	Cj	15								pF

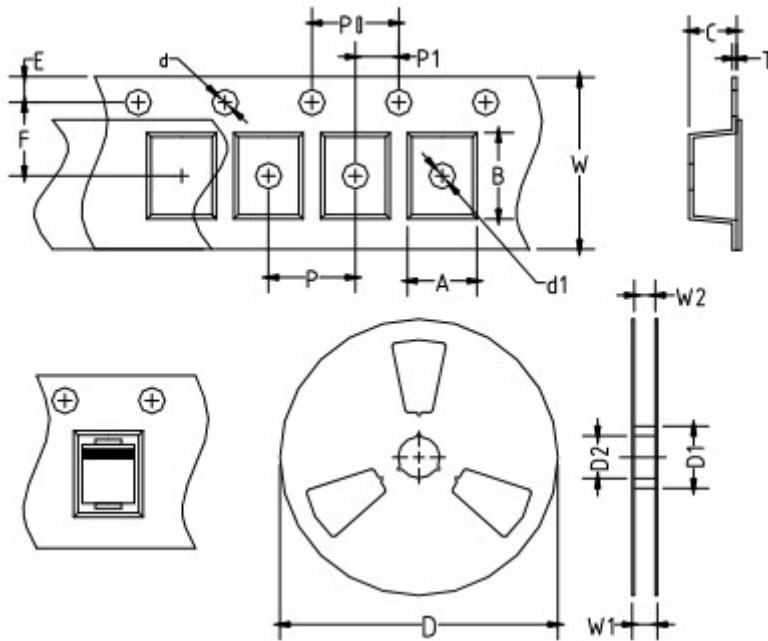
SOD123

Characteristics(Typical)

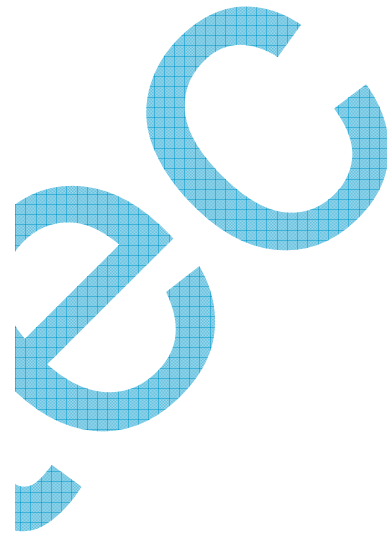


# SOD123

Size (Unit:mm)



Item	Symbol	SOD123
Carrier width	A	1.80±0.15
Carrier length	B	3.94±0.15
Carrier depth	C	1.58±0.15
Sprocket hole	d	1.50±0.10
Carrier hole	d1	1.10±0.10
Reel outside diameter	D	177.8±1.0
Reel inner diameter	D1	54±1.0
Feed hole diameter	D2	13.0±1.0
Strocket hole position	E	1.70±0.10
Punch hole position	F	3.50±0.05
Punch hole pitch	P	4.00±0.10
Sprocket hole pitch	P0	4.00±0.10
Embossment center	P1	2.00±0.10
Totall tape thickness	T	0.20±0.10
Tape width	W	7.95±0.15
Reel width	W1	10.2±1.5
Reel width	W2	9.4±1.0

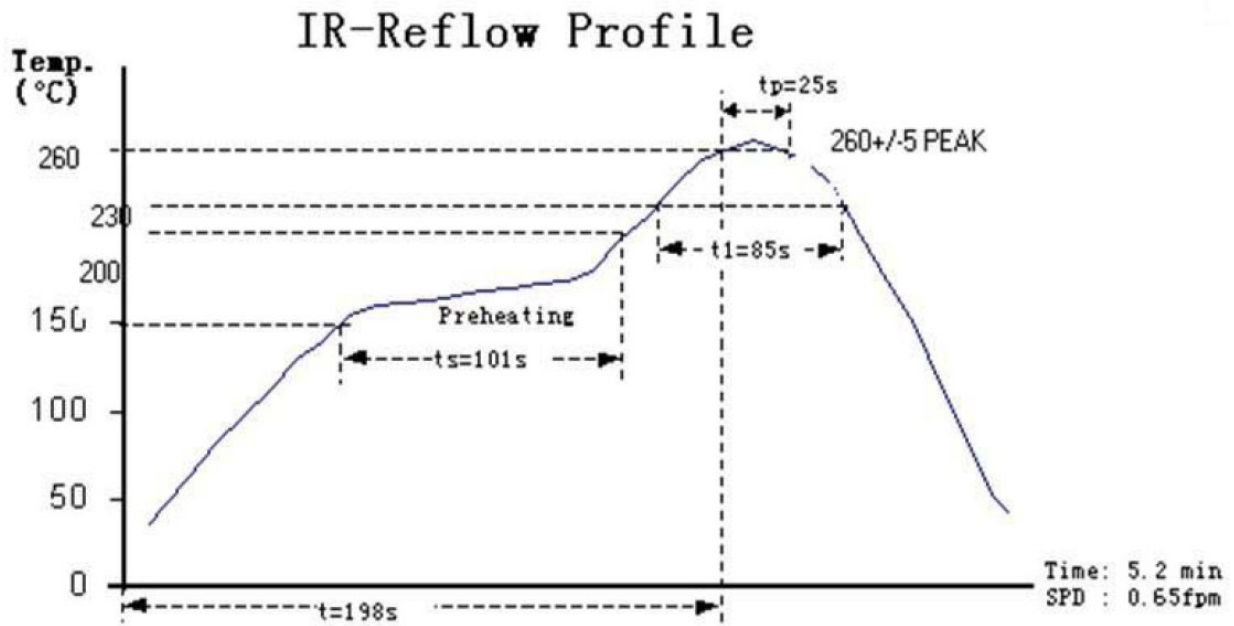


## Lead Free Reflow Soldering Profile

3/4/2020

© FrelTec® GmbH

Please read cautions and warnings and important notes at the end of this document.



FrelTec

**Stock period**

The performance of these products, including the solderability, is guaranteed for 12 month, provided that they remain packed as they were when delivered and stored at a temperature of 0-35°C and a relative humidity 35-75%RH

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](http://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.