

FrelTec

Mathildenstr. 10A
82319 Starnberg
Germany

High-efficiency Rectifier
SMA

SMA

SPECIFICATION

| 683 | US1_XXXXXX | SMA | L05 |
|--|------------|---------|---|
| Type | Type | Package | Packing |
| 683: Ultra-fast Recover Rectifier | US1_ | SMA | L05: tape and Reel(embossed tape) for 5000 pc (13'REEL) |

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

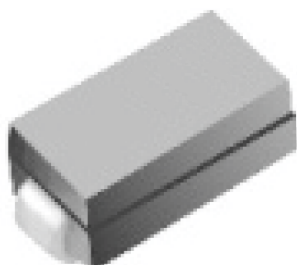
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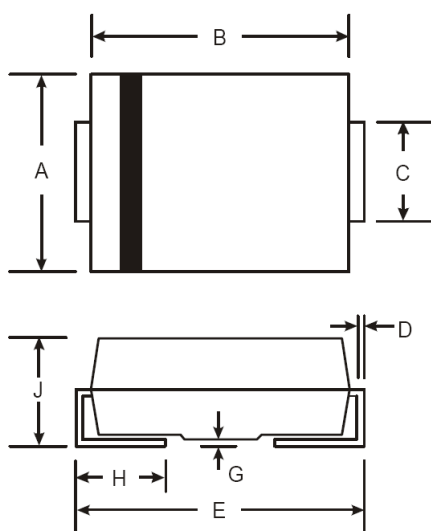
FrelTec High-efficiency Rectifier

US1_

PACKAGE OUTLINE



DIMENSIONS



| Dim | Min(mm) | Max(mm) |
|-----|---------|---------|
| A | 2,18 | 2,79 |
| B | 4,06 | 4,57 |
| C | 1,29 | 1,70 |
| D | 0,15 | 0,31 |
| E | 4,70 | 5,31 |
| G | 0,10 | 0,2 |
| H | 0,89 | 1,50 |
| J | 1,70 | 2,31 |

SMA

High-efficiency Rectifier

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified

| | Symbols | US1 A | US1 B | US1 D | US1 G | US1 J | US1 K | US1 M | Unit |
|---|---------------|--------------|----------|----------|----------|----------|----------|----------|------|
| Maximum repetitive peak reverse voltage | VRRM | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Maximum RMS voltage | VRMS | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Maximum DC blocking voltage | VDC | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | 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 | R θ JC | 45 | | | | | | | °C/W |
| Operating junction and storage temperature range | Tj, TSTG | -55 --- +150 | | | | | | | °C |

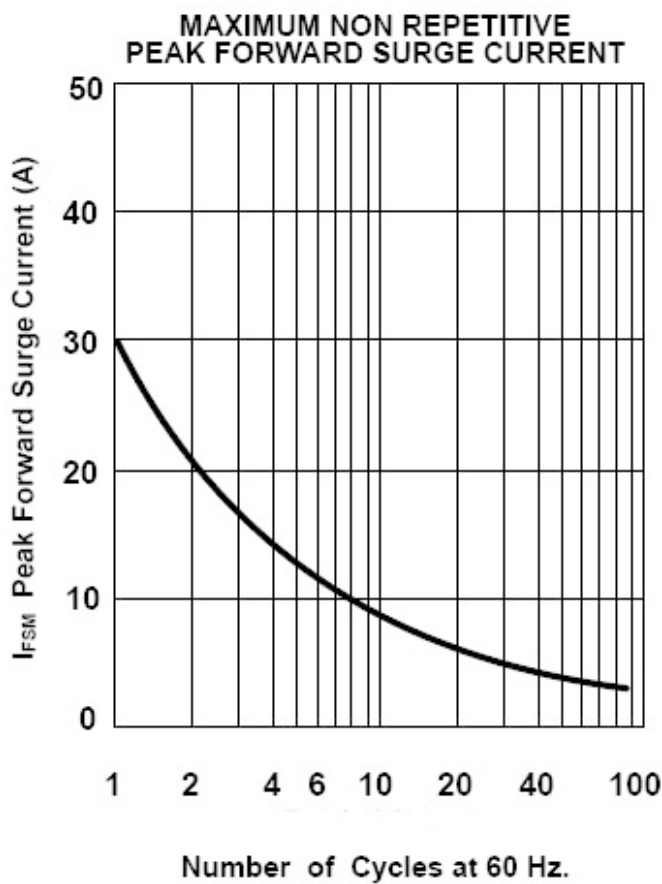
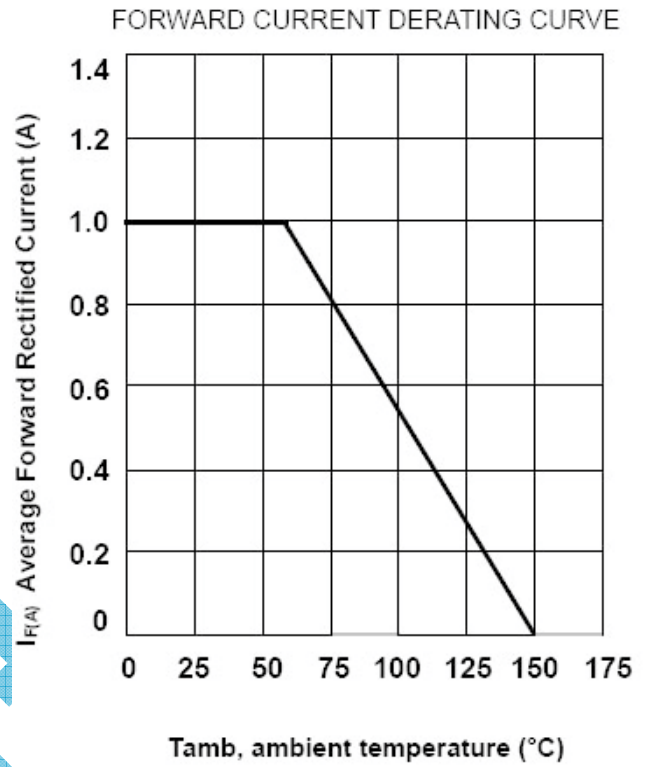
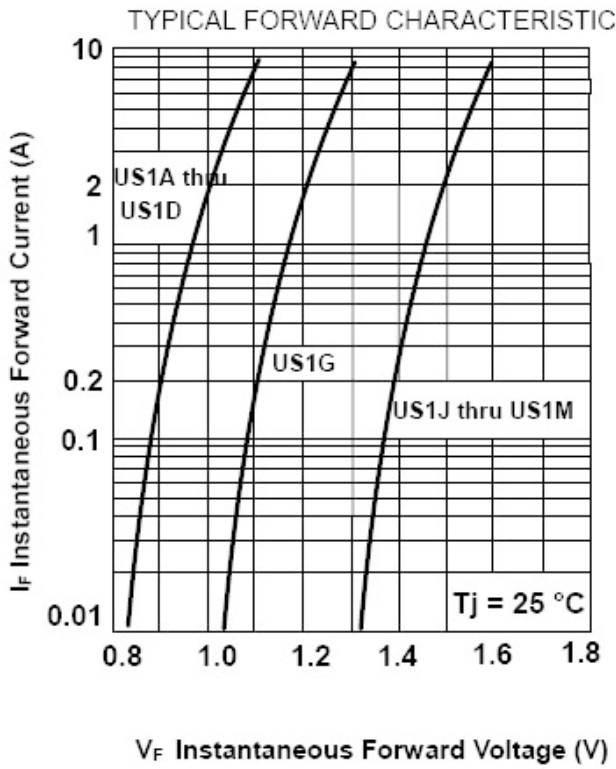
Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

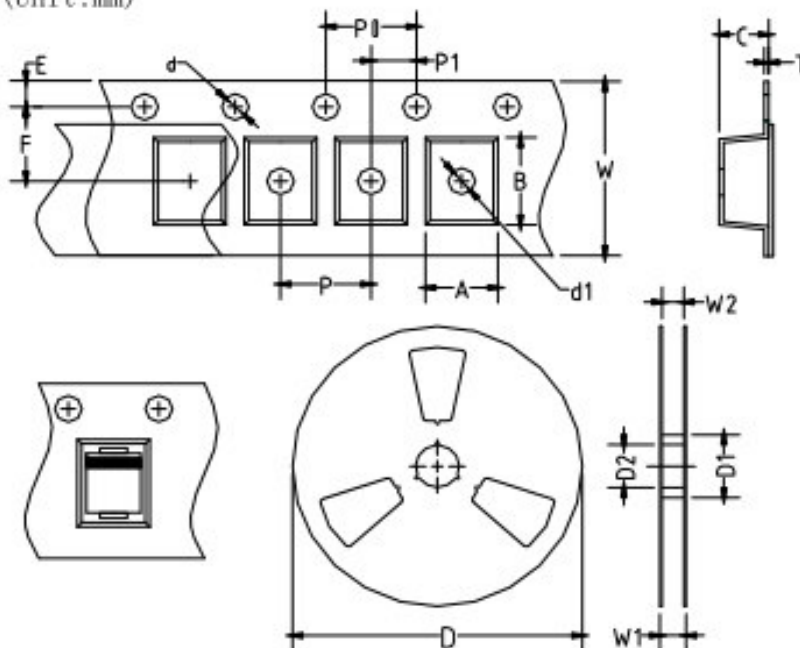
| | Symbols | US1 A | US1 B | US1 D | US1 G | US1 J | US1 K | US1 M | Unit |
|--|---------|----------|----------|----------|----------|----------|----------|----------|---------|
| IF = 1,0 A Maximum forward voltage | VF | 1,0 | | | 1,3 | 1,7 | | | V |
| TA= 25°C Maximum reverse current | IR | | | | 10 | | | | μ A |
| TA=125°C IF=0,5A IR=1,0A IREC=0,25A MAX, Reverse Recovery Time | trr | 50 | | | 75 | | | nS | |
| VR = 4.0V, f = 1MHz Type junction capacitance | Cj | 15 | | | | | | pF | |

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Rating and Characteristic Curves



Size (Unit:mm)



| Item | Symbol | SMA-W |
|------------------------|--------|------------|
| Carrier width | A | 2.79±0.15 |
| Carrier length | B | 5.33±0.15 |
| Carrier depth | C | 2.36±0.15 |
| Sprocket hole | d | 1.50±0.10 |
| Carrier hole | d1 | 1.50±0.10 |
| Reel outside diameter | D | 330.0±1.0 |
| Reel inner diameter | D1 | 75±1.0 |
| Feed hole diameter | D2 | 13.5±1.0 |
| Stroctet hole position | E | 1.75±0.10 |
| Punch hole position | F | 5.50±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 | 0.30±0.10 |
| Tape width | W | 12.00±0.15 |
| Reel width | W1 | 18.1±1.5 |
| Reel width | W2 | 13.5±1.0 |

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

3/4/2020

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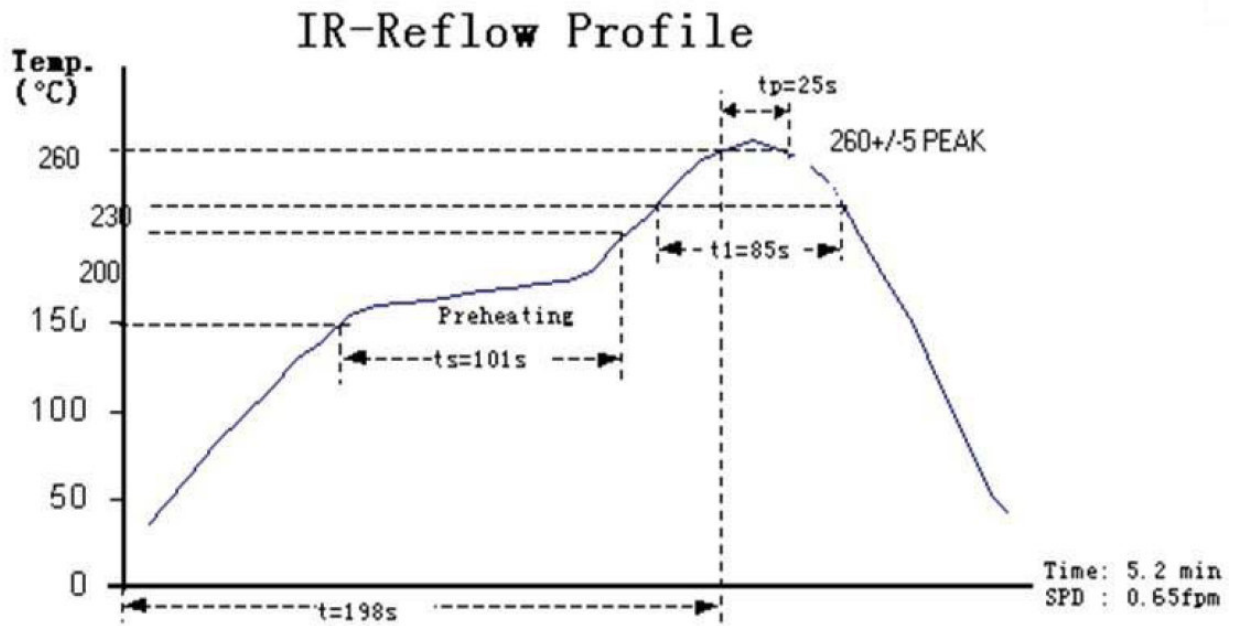
Please read cautions and warnings and important notes at the end of this document.

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Lead Free Reflow Soldering Profile



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