

# SF501DS~SF506DS

Rev.A Jan.-2019

## 描述 / Descriptions

超快恢复二极管，反向电压：100V~600V，正向电流：5.0A，TO-252 封装。

Surface Mount Ultrafast Recovery Rectifier, Reverse Voltage: 100 to 600V, Forward Current: 5.0A, TO-252 package.

## 特征 / Features

玻璃钝化芯片，效率高，低功耗，低正向压降，高浪涌能力，无铅符合欧盟 RoHS 指令 2011/65/EU，适用于表面贴装。无卤产品。

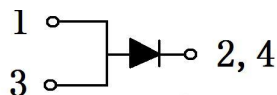
Glass Passivated Chip Junction, High efficiency, Low power loss, Low forward voltage drop, High surge capability, Lead free in comply with EU R0HS 2011/65/EU directives, For surface mounted applications. Halogen free product.

## 用途 / Applications

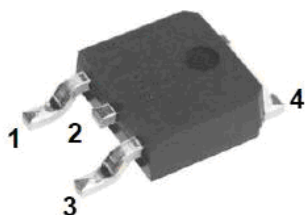
一般用途。

General purpose.

## 内部等效电路 / Equivalent Circuit



## 引脚排列 / Pinning



PIN1 : Anode

PIN 2、4 : Cathode

PIN 3 : Anode

## 印章代码 / Marking

见印章说明。See Marking Instructions.

**极限参数 / Absolute Maximum Ratings(Ta=25°C)**

参数 Parameter	参数符号 Symbol	数值 Rating						单位 Unit
		SF501DS	SF502DS	SF503DS	SF504DS	SF505DS	SF506DS	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	100	200	300	400	500	600	V
Maximum RMS voltage	$V_{RMS}$	70	140	210	280	350	420	V
Maximum DC Blocking Voltage	$V_{DC}$	100	200	300	400	500	600	V
Maximum Average Forward Rectified Current	$I_{F(AV)}$	5.0						A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Super imposed on Rated Load (JEDEC Method)	$I_{FSM}$	150						A
Typical Junction Capacitance Per Element <sup>(1)</sup>	$C_J$	45						pF
Typical Thermal Resistance <sup>(2)</sup>	$R_{\theta JA}$	15						°C/W
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55~+150						°C

Note:

- (1) Measured at 1.0MHz and applied reverse voltage of 4.0V DC.  
 (2) Mounted on 10cm x 10cm x 1mm copper pad area.

**电性能参数 / Electrical Characteristics(Ta=25°C)**

参数 Parameter	参数符号 Symbol	测试条件 Test condition	数值 Rating						单位 Unit
			SF501DS	SF502DS	SF503DS	SF504DS	SF505DS	SF506DS	
Maximum Forward Voltage	$V_F$	$I_F=5.0A$	0.95		1.30		1.70		V
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_a=25^\circ C$	1.0						uA
		$T_a=125^\circ C$	300						
Maximum Reverse Recovery Time	$T_{rr}$	$I_F=0.5A$ $I_R=1.0A$ $I_{rr}=0.25A$	35						ns

电参数曲线图 / Electrical Characteristic Curve

FIG.1 - FORWARD CURRENT DERATING CURVE

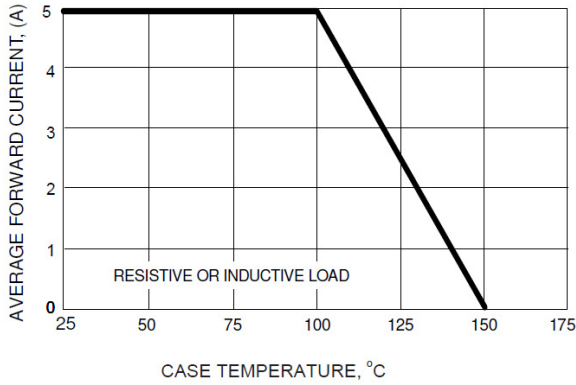


FIG.2 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

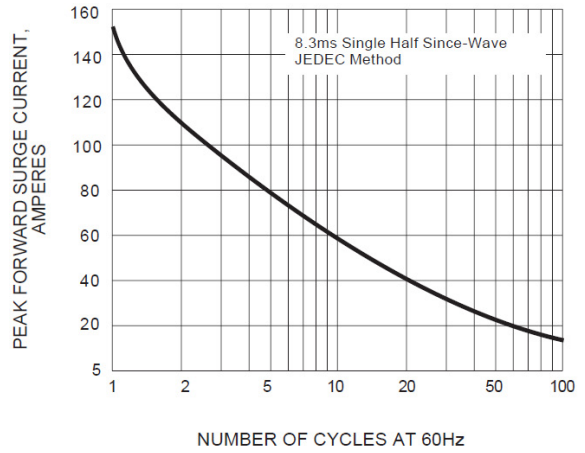


FIG.3 - TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

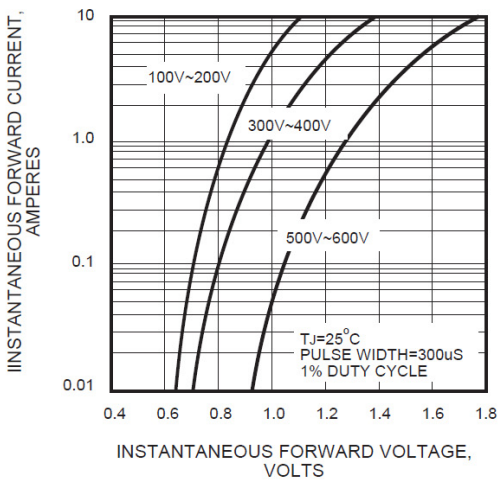


FIG.4 - TYPICAL REVERSE CHARACTERISTICS

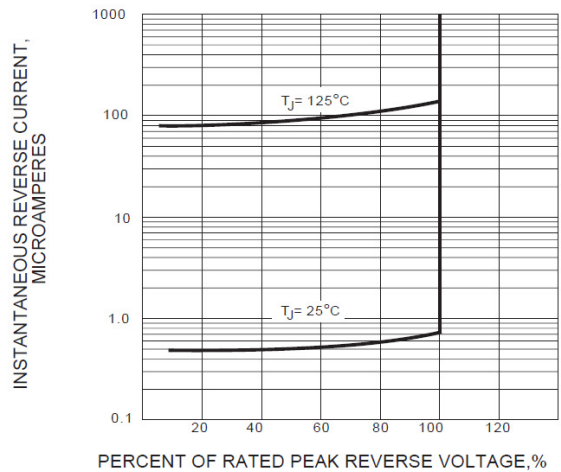
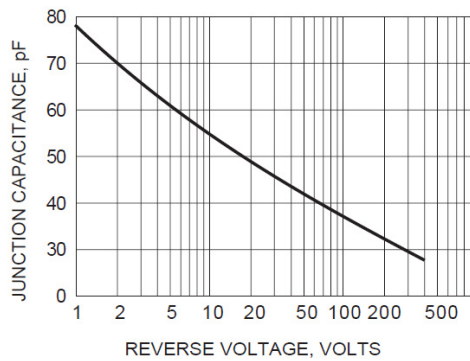
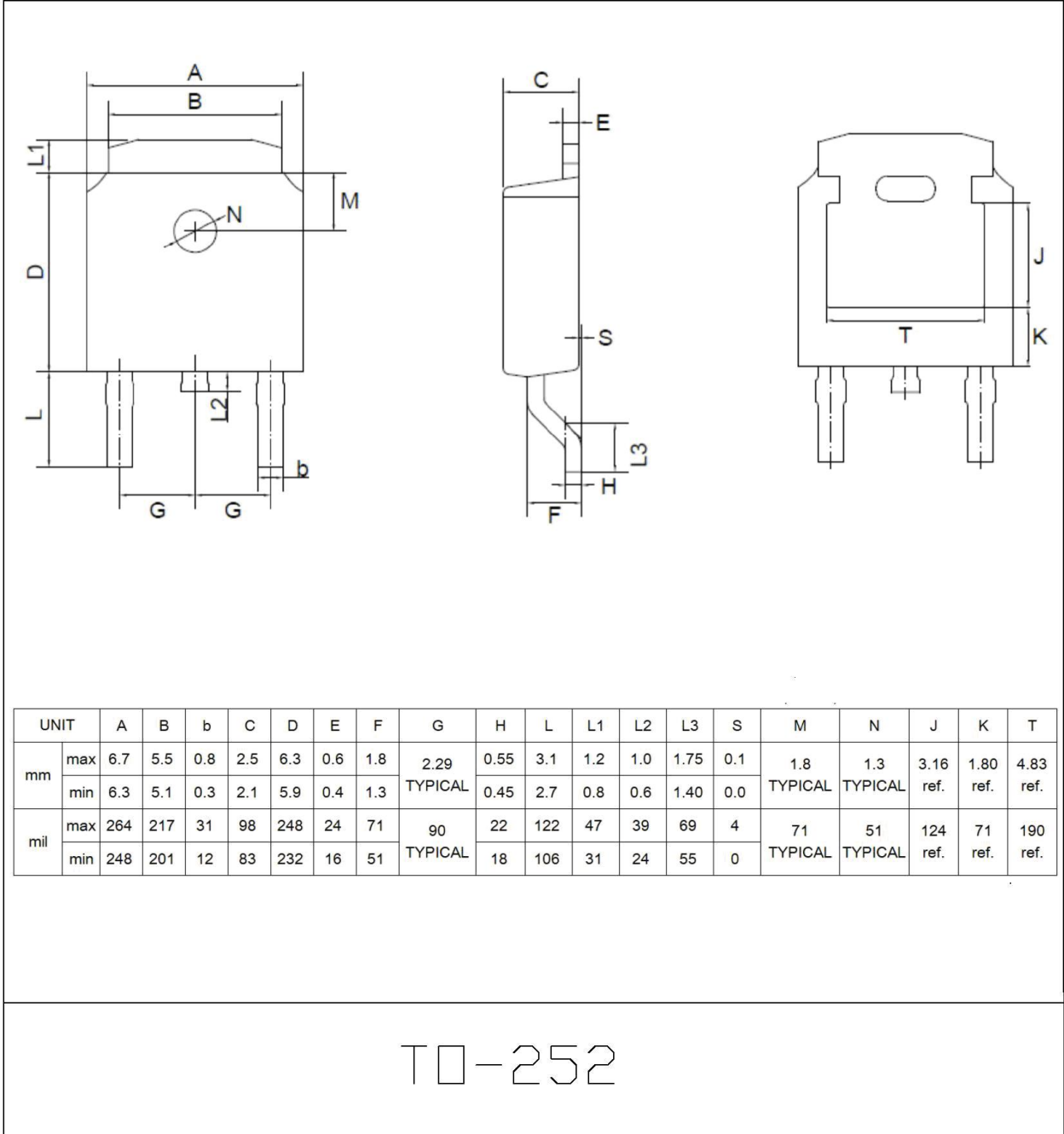


FIG.5 - TYPICAL JUNCTION CAPACITANCE



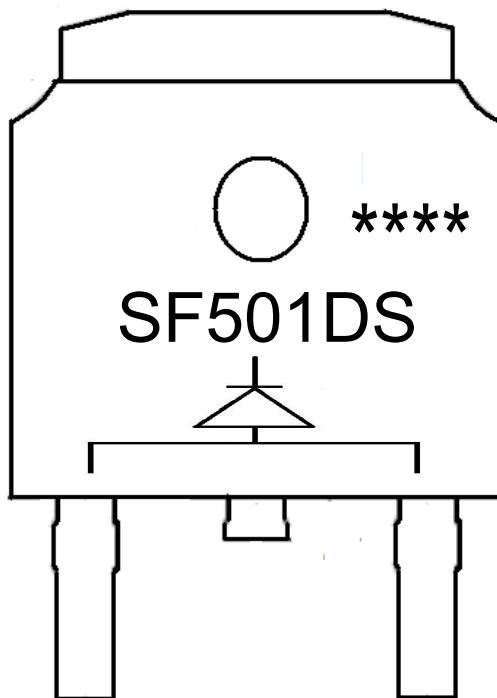
外形尺寸图 / Package Dimensions



# SF501DS~S

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印章说明 / Mar



说明：

SF501DS：为型号代码

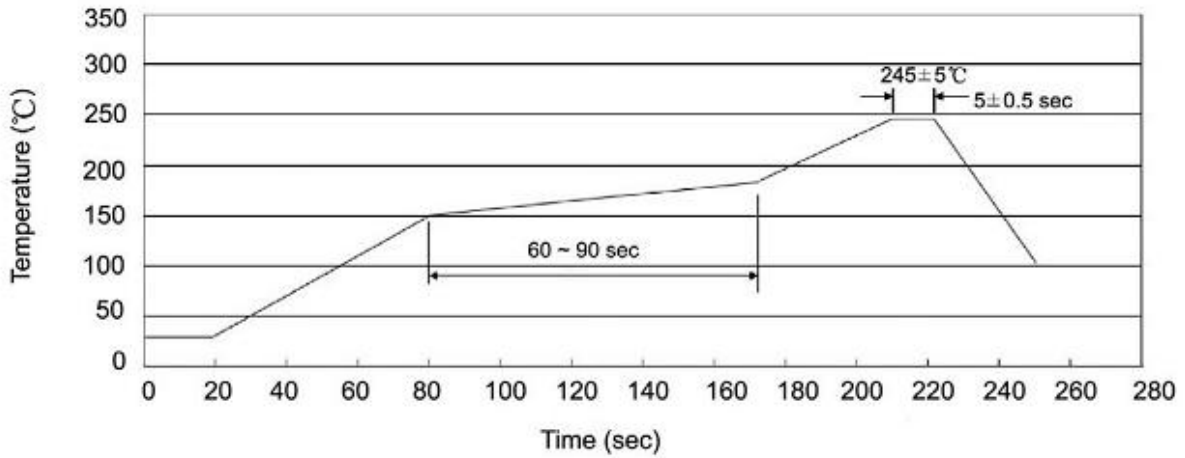
\*\*\*\*：为生产批号代码，随生产批号变化。

Note:

SF501DS：Product Type Code.

\*\*\*\*: Lot No. Code, code change with Lot No.

**回流焊温度曲线图(无铅) / Temperature Profile for IR Reflow Soldering(Pb-Free)**



说明：

- 1、预热温度 150 ~ 180°C，时间 60 ~ 90sec；
- 2、峰值温度 245±5°C，时间持续为 5±0.5sec；
- 3、焊接制程冷却速度为 2 ~ 10°C/sec.

Note:

- 1.Preheating:150~180°C, Time:60~90sec.
- 2.Peak Temp.:245±5°C, Duration:5±0.5sec.
3. Cooling Speed: 2~10°C/sec.

**耐焊接热试验条件 / Resistance to Soldering Heat Test Conditions**

温度：260±5°C

时间：10±1 sec.

Temp.:260±5°C

Time:10±1 sec

**包装规格 / Packaging SPEC.**

卷盘包装 / REEL

Package Type 封装形式	Units 包装数量					Dimension 包装尺寸 (unit: mm)		
	Units/Reel 只/卷盘	Reels/Inner Box 卷盘/盒	Units/Inner Box 只/盒	Inner Boxes/Outer Box 盒/箱	Units/Outer Box 只/箱	Reel	Inner Box 盒	Outer Box 箱
TO-252	2,500	2	5,000	5	25,000	16.4(13")	337×337×49	345×345×280

**使用说明 / Notices**