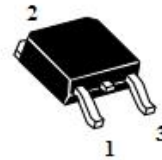


SF1006GS&SF1006DS

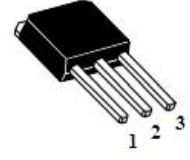
10.0AMPS. HIGH EFFICIENT RECTIFIERS

FEATURE

- . High current capability
- . Super fast recovery time for high efficiency.
- . High reliability
- . High surge current capability
- . Epitaxial construction
- . High temperature soldering guaranteed
260°C /10seconds, 0.25"(6.35mm)from case.



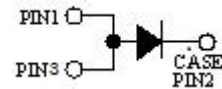
TO-252
SF1006GS



TO-251
SF1006DS

MECHANICAL DATA

- . Case: Molded with UL-94 Class V-0 recognized
Flame Retardant Epoxy
- . Mounting position: any



Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

MAXIMUM RATINGS (T_c=25°C unless otherwise noted)

Parameter	Symbol	SF1006GS&SF1006DS	Units
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	400	V
Maximum RMS Voltage	V _{RMS}	280	V
Maximum DC blocking Voltage	V _{DC}	400	V
Maximum Average Forward Rectified Current at T _c =100°C <i>Total device</i>	I _{F(AV)}	10.0	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC method)	I _{FSM}	120	A
Maximum Reverse Recovery Time (Note 1)	t _{rr}	50	nS
Typical Junction Capacitance (Note 2)	C _J	150	pF
Operation Junction Temperature and Storage Temperature	T _J , T _{STG}	-55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_c=25°C unless otherwise noted)

Parameter	Symbol	Typ	Max	Units
Maximum Forward Voltage at 10.0A DC	V _F	1.10	1.3	V
Maximum DC Reverse Current at rated DC blocking voltage @T _A =25°C	I _R	----	10	μA
@T _A =100°C		----	400.0	

THERMAL CHARACTERISTICS (T_c=25°C unless otherwise noted)

Parameter	Symbol	SF1006GS	SF1006DS	Units
Typical Thermal Resistance (Note 3)	R _(JC)	6.5	6.5	°C/W

Note:

1. Test Conditions: I_F=0.5A, I_R=1.0A, I_{RR}=0.25A
2. Measured at 1.0 MHz and applied reverse voltage of 4.0Vdc
3. Thermal Resistance From Junction to Case

RATING AND CHARACTERISTIC CURVES

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

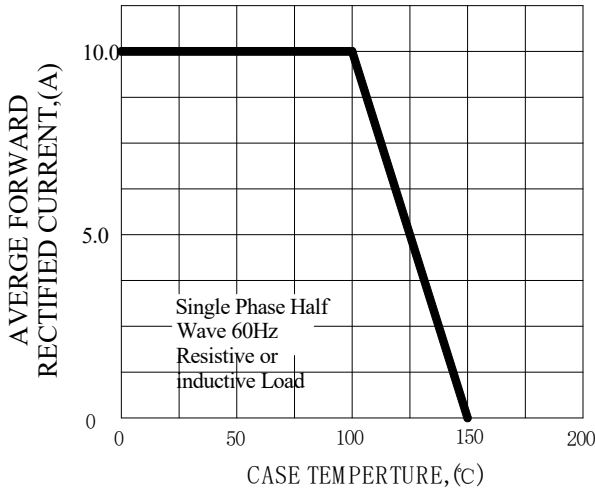


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

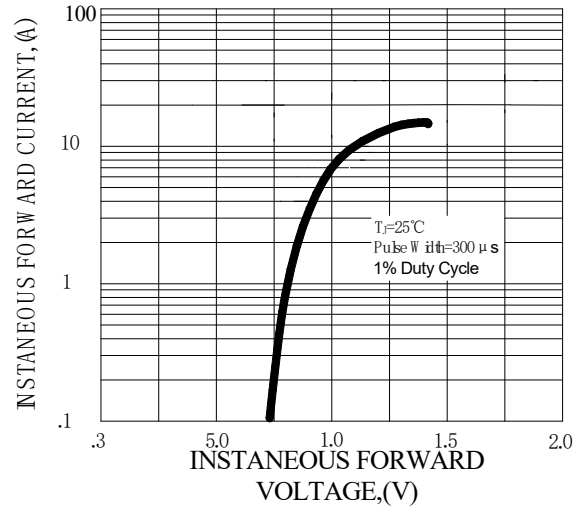


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

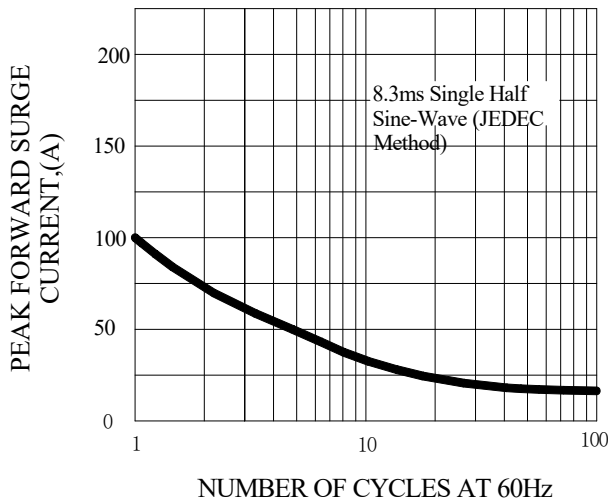


FIG.4-TYPICAL REVERSE CHARACTERISTICS

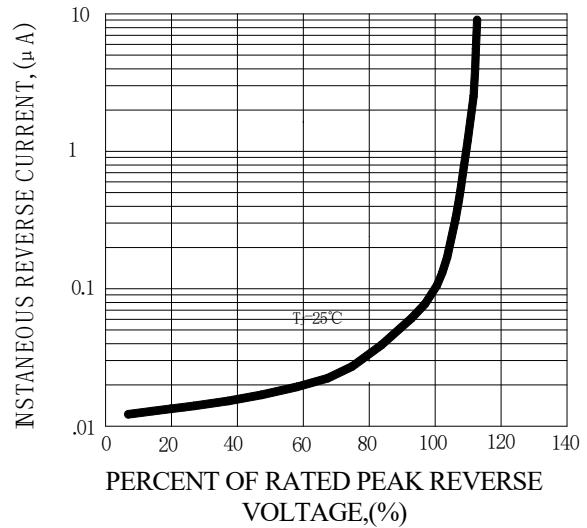
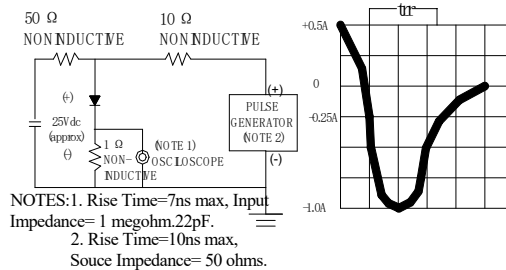
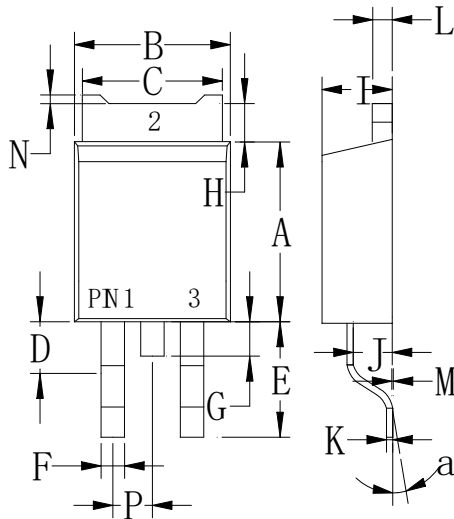


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



PACKAGE OUTLINE DIMENSIONS

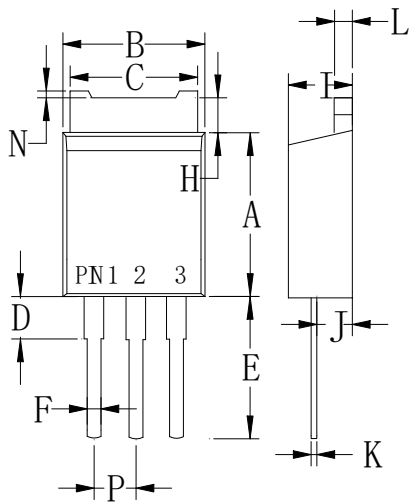
TO-252



TO-252		
Dim	Min	Max
A	.230 (5.85)	.246 (6.25)
B	.250 (6.35)	.264 (6.75)
C	.207 (5.27)	.218 (5.54)
D	.037 (0.93)	.045 (1.14)
E	.106 (2.70)	.138 (3.50)
F	.028 (0.72)	.033 (0.84)
G	.024 (0.60)	.041 (1.05)
H	.028 (0.72)	.043 (1.10)
I	.085 (2.15)	.096 (2.45)
J	.037 (0.95)	.047 (1.20)
K	.018 (0.45)	.026 (0.65)
L	.018 (0.45)	.024 (0.60)
P	.081 (2.05)	.094 (2.40)
M	.000 (0.00)	.006 (0.15)
N	--	.008 (0.20)
a	0°	10°

Dimensions in inches and (millimeters)

TO-251

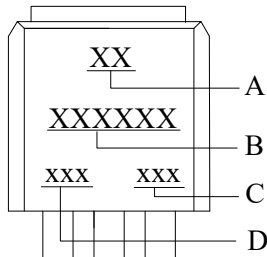


TO-251		
Dim	Min	Max
A	.230 (5.85)	.246 (6.25)
B	.250 (6.35)	.266 (6.75)
C	.207 (5.27)	.218 (5.54)
D	.037 (0.93)	.045 (1.14)
E	.173 (4.40)	.205 (5.20)
F	.028 (0.72)	.033 (0.84)
H	.028 (0.70)	.043 (1.10)
I	.085 (2.15)	.096 (2.45)
J	.037 (0.95)	.047 (1.20)
K	.018 (0.45)	.026 (0.65)
L	.018 (0.45)	.024 (0.60)
N	--	.008 (0.20)
P	.081 (2.05)	.094 (2.40)

Dimensions in inches and (millimeters)

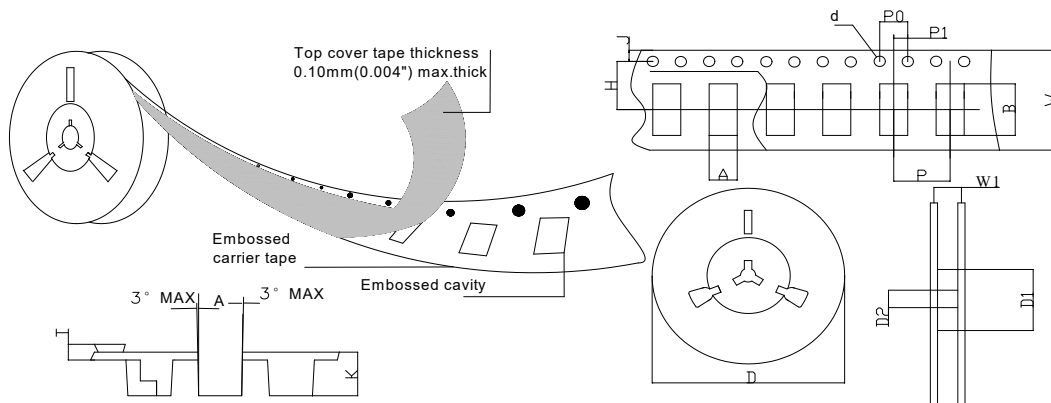
Marking and packaging illustration

1、Marking



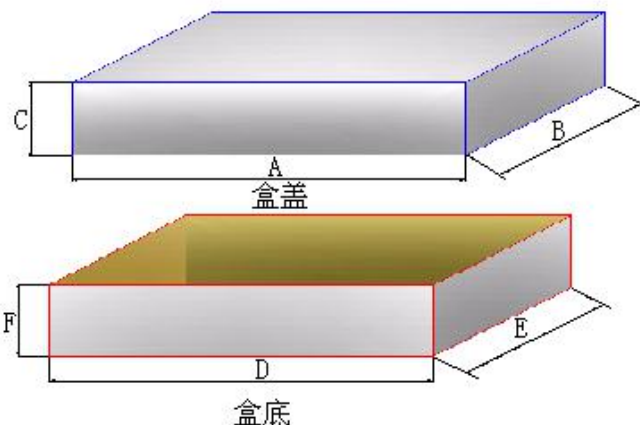
SYMBOL	Explanation
A	Trademark
B	Product Name
C	Date Code
D	Product Information

2、Packaging



SPECIFICATIONS mm(inch)		PACKAGE	SPECIFICATIONS mm(inch)		PACKAGE
ITEM	SYM BOL	TO-252	ITEM	SYM BOL	TO-252
Carrier width	A	7.10(0.280)Max	Carrier depth	K	2.79(0.110)Typ
Carrier length	B	10.7(0.421)Max	Punch hole pitch	P	8.00(0.315)Typ
Sprocket hole	d	ø1.50(0.059)Typ	Sprocket hole pitch	P0	4.00(0.157)Typ
Reel outer diameter	D	330.0(13.0)Typ	Embossment center	P1	2.00(0.079)Typ
Reel inner diameter	D1	74.0(2.913)Min	Overall tape thickness	T	0.25(0.010)Typ
Feed hole diameter	D2	13.0(0.512)Typ	Tape width	W	16.0(0.630)Typ
Sprocket hole position	J	1.75(0.069)Typ	Reel width	W1	16.5(0.650)Min
Punch hole position	H	7.50(0.295)Typ			

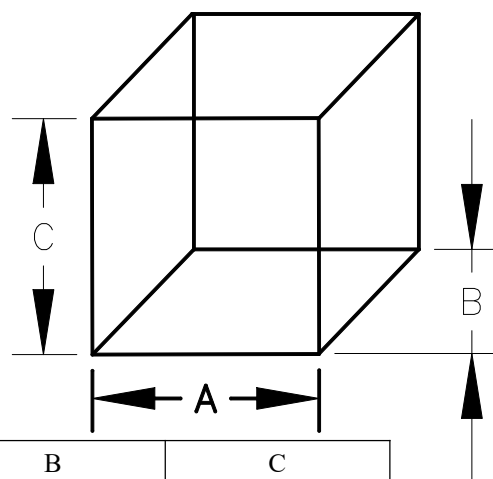
2.2 产品内盒及尺寸：（5000pcs / Box）



类别	A	B	C	D	E	F
TO-263	338	338	63	334	334	61

- 说明：1)、料为瓦楞纸,厚度 1.5mm。
2)、标示尺寸为内部尺，公差为+1/- 2mm。
3)、上下表面要求光滑,不得有污染,有划痕等不良。
4)、盒底和盒盖组合后,要求方正平直。

2.3 产品外箱及尺寸：（25000pcs / Carton）



产品名称	包装外形	A	B	C
TO-263	装 5 个卷装内盒	350	350	345

- 说明: 1)、材质：5层瓦楞纸。
2)、颜色：牛皮纸原色。
3)、厚度：5.5mm(min)。
4)、公差：±3mm。
5)、尺寸标注：内部尺寸。

测试报告

		日期	2019/10/14
		客户	创维
		批号	
产品名称	SF1006GS	记录	王航
产品商标	PY	审核	王强

电参数测试				直方图分布											
测试条件	IF=10A	VR=400V	IR=0.1mA	V _F			判定	合格							
合格标准	V _F (V)	I _R (uA)	V _R (V)	MAX	MIN	R	AVG	σ	CPK						
	≤ 1.300	≤ 10.00	≥ 400	1.134	1.096	0.038	1.106	0.012	5.45						
1	1.097	0.037	474.6												
	1.097	0.036	474.7												
2	1.098	0.029	473.8												
	1.096	0.026	471.6												
3	1.101	0.037	475.8												
	1.100	0.031	475.6												
4	1.098	0.031	475.5												
	1.097	0.030	475.7												
5	1.096	0.032	475.3												
	1.096	0.035	474.6												
6	1.096	0.041	474.1												
	1.098	0.044	473.9												
7	1.099	0.031	475.4												
	1.102	0.032	475.9												
8	1.108	0.031	475.5												
	1.112	0.035	474.1												
9	1.111	0.035	473.8												
	1.108	0.041	475.8												
10	1.103	0.039	476.5												
	1.101	0.034	476.0												
11	1.097	0.032	474.7												
	1.097	0.047	474.6												
12	1.097	0.032	475.5												
	1.099	0.043	475.9												
13	1.098	0.029	476.2												
	1.097	0.044	475.5												
14	1.100	0.039	476.2												
	1.101	0.036	476.3												
15	1.098	0.036	470.5												
	1.101	0.049	473.6												
16	1.102	0.040	477.3												
	1.102	0.027	475.8												
17	1.133	0.029	467.5												
	1.128	0.037	466.3												
18	1.124	0.027	460.7												
	1.117	0.038	451.2												
19	1.128	0.031	463.6												
	1.134	0.043	466.4												
20	1.129	0.030	468.3												
	1.129	0.045	468.1												

可靠性认证要求

序号	试验项目	参考标准	试验条件/方法	每批次样本	Duration/试验判据
1	高压蒸煮	JESD22-102	121±2℃/15PSI/100%RH/96 (-0, +5) h	22	满足参数规格, 0收1退
2	温度冲击	JESD22-A106	TA= -55℃, TB = 150℃/高温或低温端暴露时间t1=30min/50次	22	满足参数规格, 0收1退
3	耐焊接热	JESD22-B106	贴片260 (-0, +5℃) /10±1s	22	满足参数规格, 0收1退
4	高温贮存	JESD22-A103	TA=150℃/168h	22	满足参数规格, 0收1退
5	低温贮存	JESD22-A103	TA=-55℃/168h	22	满足参数规格, 0收1退
6	高温反偏	JESD22-A108	80%VB/125±2℃/168±16h	22	满足参数规格, 0收1退
7	高温高湿	JESD22-A101	85±2℃/85±5%RH/168h	22	满足参数规格, 0收1退
8	正向浪涌	MIL-STD-750	8.3ms single half sine-wave@IFSM=100A	22	满足参数规格, 0收1退
9	可焊锡	JESD22-B102	→可焊性测试245±5℃, 5±0.5s	22	50倍显微镜观察 上锡面积≥95%
10	高温正向	JESD22-A106	TA= -55℃/Tjmax (调整Io最大为IF且使Tj趋近于Tjmax但不超) /168h	22	满足参数规格, 0收1退
11	温度循环	JESD22-A104	TA=-65℃ to +150℃ 10min 变化速率10℃/min 10times	22	满足参数规格, 0收1退

CHONGQING PINGWEI ENTERPRISE CO.,LTD

Chemical Composition Of Diode(TO-252)

Weight: 308.355 mg/pcs

Make up of material	Chemical Composition	CAS NO.	Averager (weight%)	weight of part (%)	Substance weight (mg)	Name of supplier
Lead Wire	Copper(Cu)	7440-50-8	99.98	54.6511%	168.5192894	NINGBO HUALONG ELECTRONCS CO,LTD
	Iron(Fe)	7439-89-6	0.015	0.0082%	0.02528295	
	Phosphoru(P)	7723-14-0	0.005	0.0027%	0.00842765	
Chip	Silicon (Si)	7440-21-3	95.5937	3.5276%	10.87760712	JIANGYIN XINSHUN MICROELECTRONIC CO;LTD
	Aluminum(Al)	7429-90-5	2.4242	0.0895%	0.27584972	
	Copper (Cu)	7440-50-8	0.0067	0.0002%	0.00076239	
	Platinum(Pt)	7440-0 6-4	0.0321	0.0012%	0.00365266	
	Titanium (Ti)	7440-32-6	0.1012	0.0037%	0.01151555	
	Nickel (Ni)	7440-02-0	0.2664	0.0098%	0.03031366	
	Silver (Ag)	7440-22-4	1.5757	0.0581%	0.17929890	
Soldering	Lead(Pb)	7439-92-1	95.5	2.4382%	7.5184000	WUXI LIHONG ELECTRONIC MATERIALS CO,TTD
	Tin(Sn)	7440-31-5	2	0.1318%	0.4064000	
	Silver(Ag)	7440-22-4	2.5	0.0659%	0.2032000	
Aluminum wire	Aluminum(Al)	7429-90-5	99.995	2.2142%	6.8276586	TANAKA ELECTRONICS SINGAPORE PTE LTD
	Nickel (Ni)	7440-02-0	0.005	0.0001%	0.0003414	
Solder plating	Tin(Sn)	7440-31-5	99.99	5.0605%	15.6044394	YUNNAN TIN CO.,LTD
	Lead(Pb)	7439-92-1	0.0035	0.0002%	0.0005462	
	Iron(Fe)	7439-89-6	0.0045	0.0002%	0.0007023	
	Copper(Cu)	7440-50-8	0.002	0.0001%	0.0003121	
Encapsulation	Silicon dioxide	14808-60-7	64.5	20.4700%	63.1203450	CHANG CHUN SB (CHANG SHU)CO.,LTD
	Epoxy resin	29690-82-2	30	9.5209%	29.3583000	
	Phenolic Resin	9003-35-4	5	1.5868%	4.8930500	
	Carbon black	1333-86-4	0.5	0.1587%	0.4893050	

Note : Pb used in high melting temperature type solders is exempted from RoHS.

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