

SF1006GS&SF1006DS

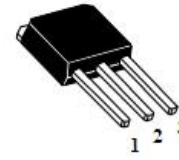
10.0AMPS. HIGH EFFICIENT RECTIFIERS

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.



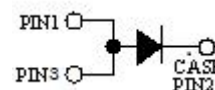
TO-252
SF1006GS



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 @T _A =25°C	I_R	----	10	μA
at rated DC blocking voltage @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

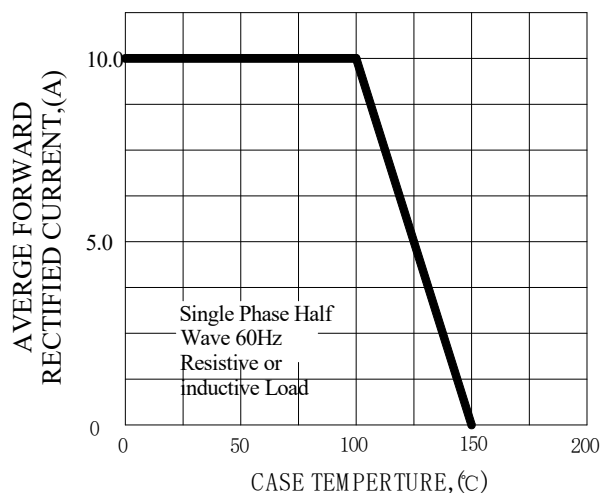


FIG.2-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

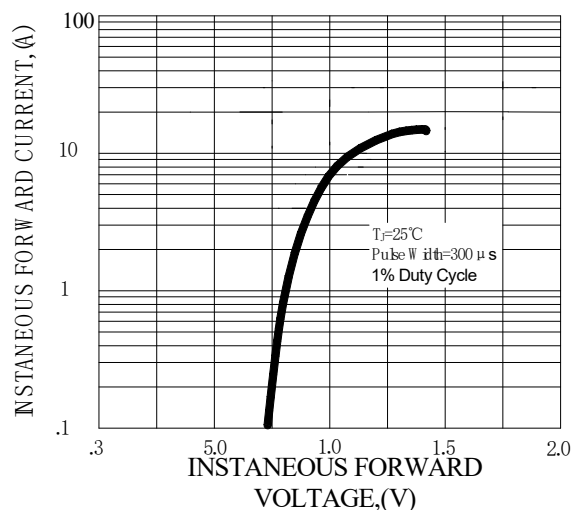


FIG.3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

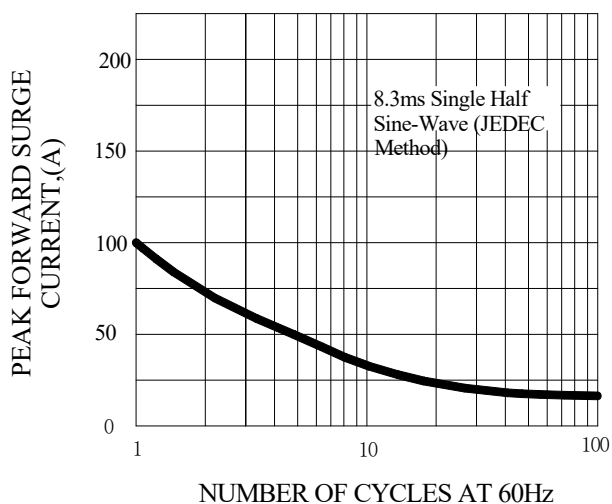


FIG.4-TYPICAL REVERSE CHARACTERISTICS

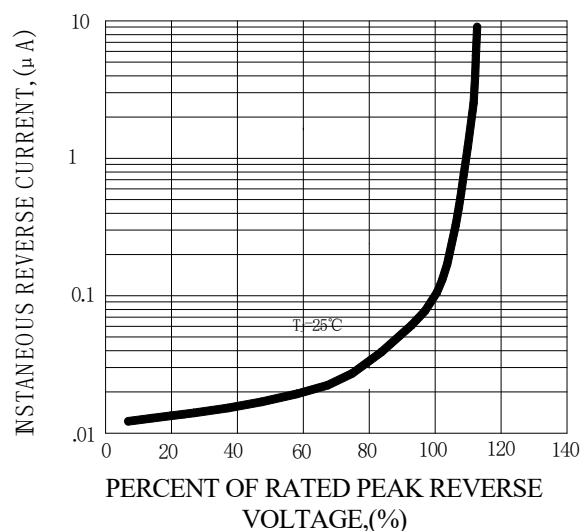
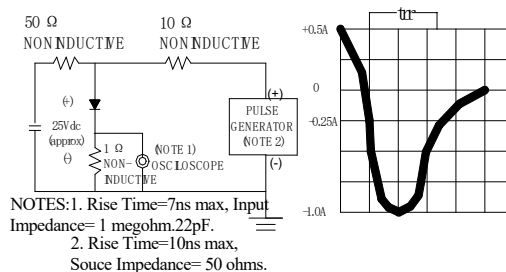
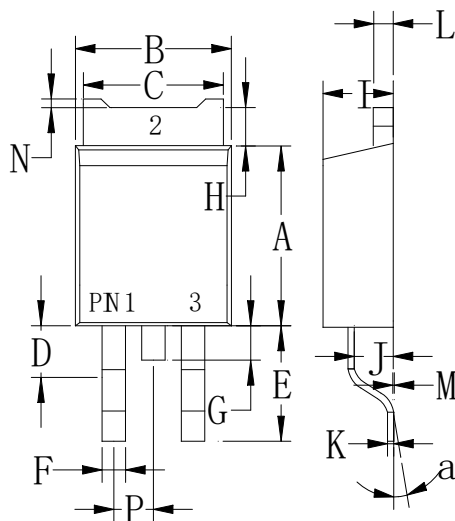


FIG.5-TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTIC



PACKAGE OUTLINE DIMENSIONS

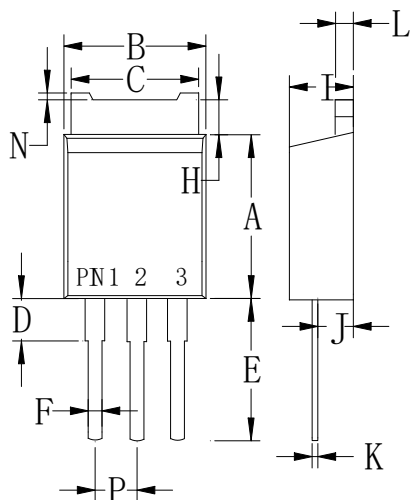
TO-252



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

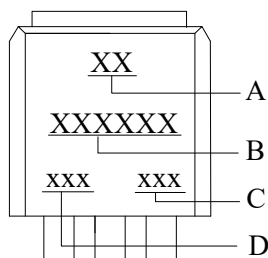


TO-251		
Dim	Min	Max
A	.230 (5.85)	.246 (6.25)
B	.250 (6.35)	.266 (6.75)
C	.207 (5.27)	.218 (5.54)
D	.037 (0.93)	.045 (1.14)
E	.173 (4.40)	.205 (5.20)
F	.028 (0.72)	.033 (0.84)
H	.028 (0.70)	.043 (1.10)
I	.085 (2.15)	.096 (2.45)
J	.037 (0.95)	.047 (1.20)
K	.018 (0.45)	.026 (0.65)
L	.018 (0.45)	.024 (0.60)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

Dimensions in inches and (millimeters)

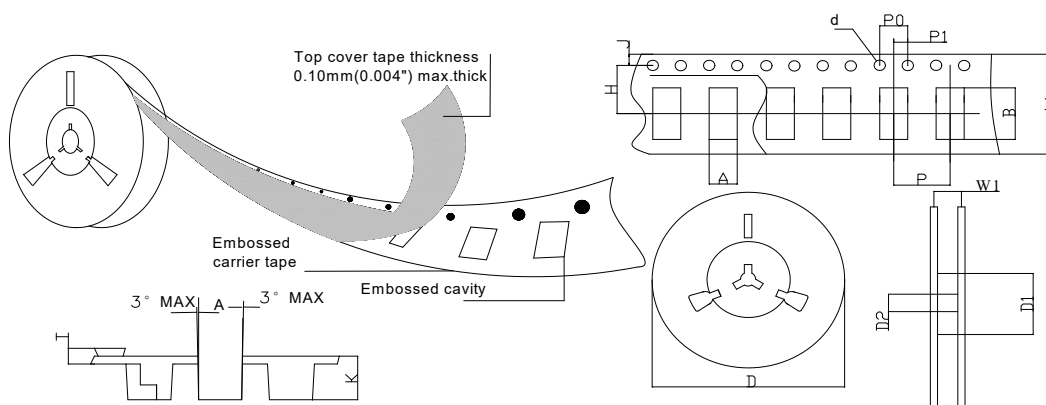
Marking and packaging illustration

1、Marking



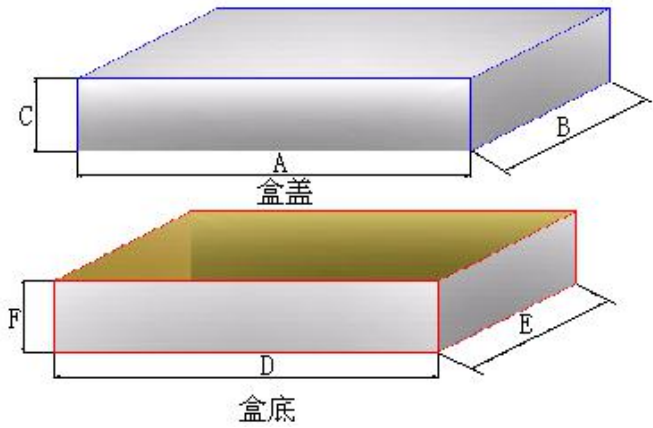
SYMBOL	Explanation
A	Trademark
B	Product Name
C	Date Code
D	Product Information

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			

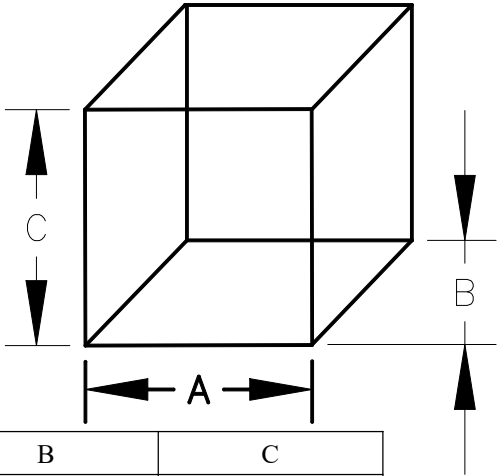
2.2 产品内盒及尺寸：（5000pcs / Box）



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。

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.