Semitel International Ltd.

承　　認　　書

SPECIFICATION FOR APPROVAL

CUSTOMER'S APPROVAL CHOP
客　戶　確　認　蓋　章

條 件 附 確 認:
Approval's condition: _____

確 認 日 期
Approved date: _____

確認這制品, 請簽回一套給我司并蓋上貴司的正式印章
KINDLY RETURN A SET WITH YOUR COMPANY'S OFFICIAL STAMP ON APPROVAL OF THIS ITEM

客　戶　名　稱　：
CUSTOMER'S NAME　： _____

客 戶 機 型　：
CUSTOMER'S MODEL NO. : _____

客戶型號：
CUSTOMER'S PART NO. : _____

類 別：
DESCRIPTION : **FXS Over Voltage Protetcor**

晶 讯 編 號：
SEMITEL'S MODEL NO. : **SVG170DN**

版本：
VERSION : **A**

日期：
DATE : **2016/1/25**

承認書附件:
Attachments:

- ☐ 制品規格書 Product specification
- ☐ 樣品/Sample Qty.:
- ☐ 測試參數 Test data

Prepared By	Checked By	Approved By
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变更记录
Revision Record

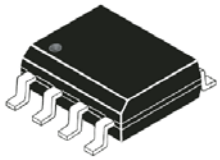
版本 Version	变更日期 Revision date	变更項目/Revision for items	变更原因/Reason For Revision
A	2016/1/25	New product release	

晶讯編號 : SEMITEL'S MODEL NO. :	SVG170DN	客戶機型: CUSTOMER'S MODEL NO.:	
版本/VERSION :	A	客戶型號 :	
日期/DATE :	2016/1/25		

晶訊國際有限公司
Semitel International Ltd.

Description

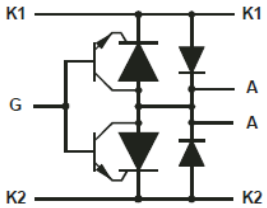
This device is especially designed to protect Subscriber Line Interface Circuit (SLIC) against transient overvoltage. Positive overloads are clipped with 2 diodes. Negative surges are suppressed by 2 Thyristors, their breakdown voltage being referenced to VBAT through the gate. This component presents a very low gate triggering current and minimizes overvoltage stress on the SLIC.



SOP-8

Feature

- Dual programmable transient suppressor
- Wide battery voltage supports
- Low gate triggering current
- High holding current
- ESD Immunity(HBM): JESD22 Class 3B, < 8KV
- MSL: Level 1 - unlimited



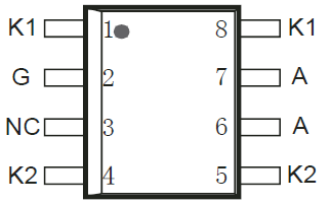
Schematic Diagram

Application

- Switch Line Card
- Access Network Line Card
- PBX
- VoIP

Pin Configuration

Pin #	Pin Name	Description
1, 4, 5, 8	K1, K2	Connect to subscriber lines (Tip/Ring)
2	G	Connect to battery (Reference Voltage)
6, 7	A	Connect ground
3	NC	Not connected

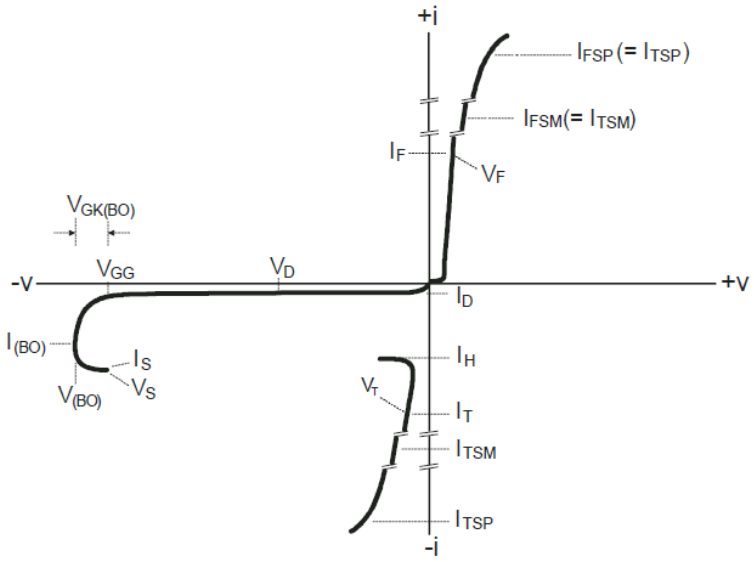


Absolute Maximum Ratings

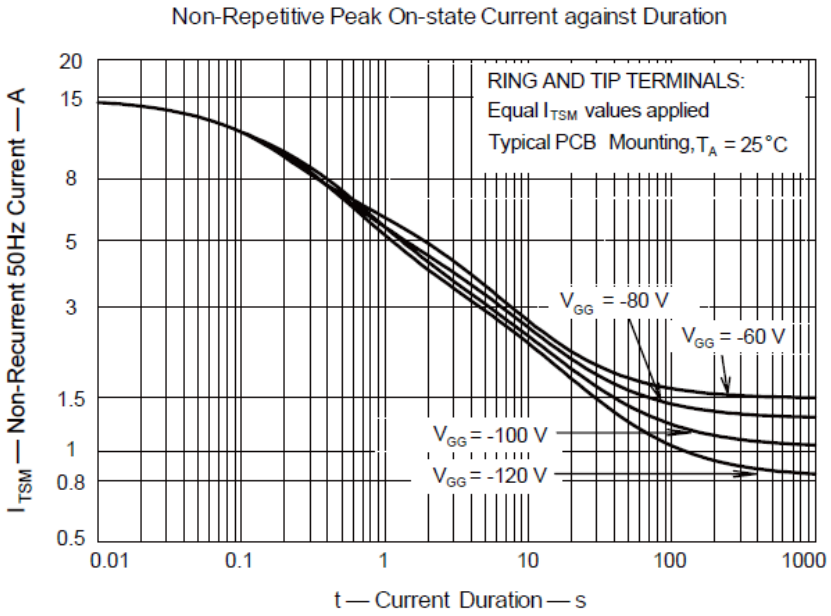
Parameter	Symbol	Value	Unit
Non-repetitive peak on-state pulse current 10/1000μs 5/320μs 2/10μs 8/20μs	I_{PPSM}	30 40 120 220	A
Non repetitive surge peak on-state current (sinusoidal) 60Hz 0.5s 1s 5s 30s 900s	I_{TSM}	6.5 4.5 2.4 1.3 0.72	A
Maximum voltage LINE/GROUND	V_{DRM}	-170	V
Maximum voltage GATE/LINE	V_{GKRM}	-167	V
Operating free-air temperature range	T_A	-40-85	°C
Storage temperature range	T_{STG}	-40-150	°C
Junction temperature	T_J	-40-150	°C
Maximum lead temperature for soldering during 10s	T_L	260	°C
Junction to free air thermal resistance	$R_{\theta JA}$	120	°C /W

Parameter Measurement Information

Parameter	Symbol
Off-state current	I_D
Holding current	I_H
Breakover voltage	$V_{(BO)}$
Forward voltage	V_F
Peak forward recovery voltage	V_{FRM}
Gate-cathode impulse breakover voltage	$V_{GK(BD)}$
Gate reverse current	I_{GKS}
Gate trigger current	I_{GT}
Gate-cathode trigger voltage	V_{GT}
Cathode-anode off-state capacitance	C_{KA}

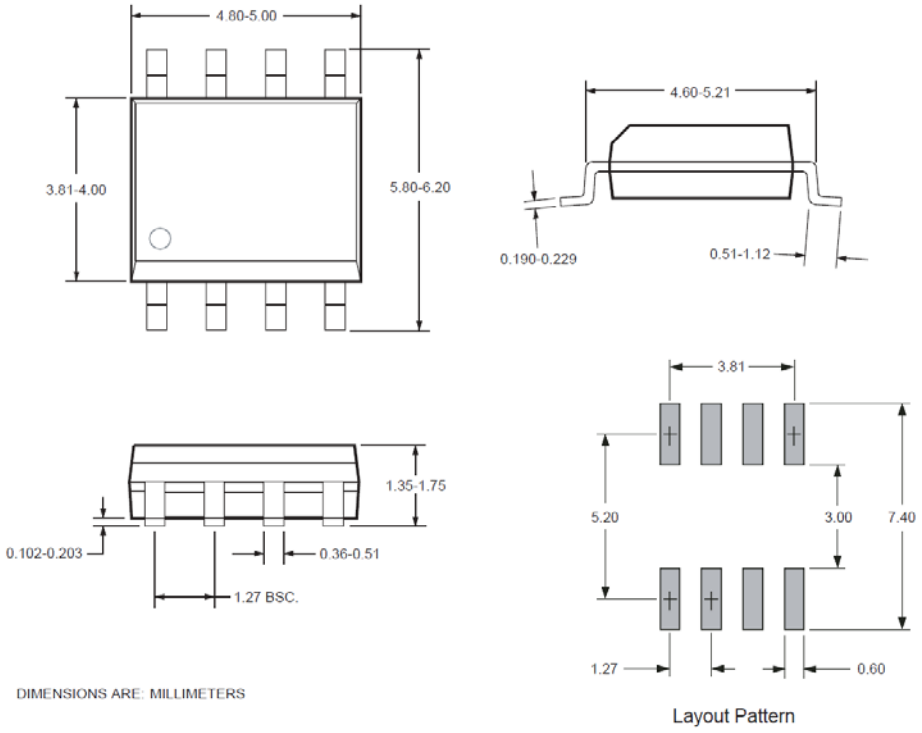


Electrical Characteristics (T_A =25°C)



Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V_F Forward voltage	I_F=5A, t_w=200 μs			3	V
V_{FRM} Peak forward recovery voltage	2/10 μs, I_F=100A,Rs=50Ω,di/dt=80A/ μs			10	V
I_D Off-state current	V_D=-170V, V_{GK}=0 T_J=25°C V_D=-170V, V_{GK}=0 T 85°C			-5	μA
$V_{(BO)}$ Breakover voltage	2/10 μs, I_{TM}=100A, Rs=50Ω, di/dt=-80A/ μs, V_{GG}=-100V			-112	V
I_H Holding current	I_T=-1A, di/dt=1A/ms, V_{GG}=-100V	-150			mA
I_{GAS} Gate reverse current	V_{GG}=V_{GK}=-167V, V_{KA}=0 T_J=25°C V_{GG}=V_{GK}=-167V, V_{KA}=0 T_J=85°C			-5	μA
I_{GT} Gate trigger current	I_T=3A, $t_{p(g)}$≥20 μs V_{GG}=-100V			5	mA
V_{GT} Gate trigger voltage	I_T=3A, $t_{p(g)}$≥20 μs V_{GG}=-100V			2.5	V
C_{KA} Anode-cathode offstate capacitance	f=1MHz,V_d=1V, I_G=0 V_D=-3V f=1MHz,V_d=1V, I_G=0 V_D=-48V			110 55	pF

Product Dimension

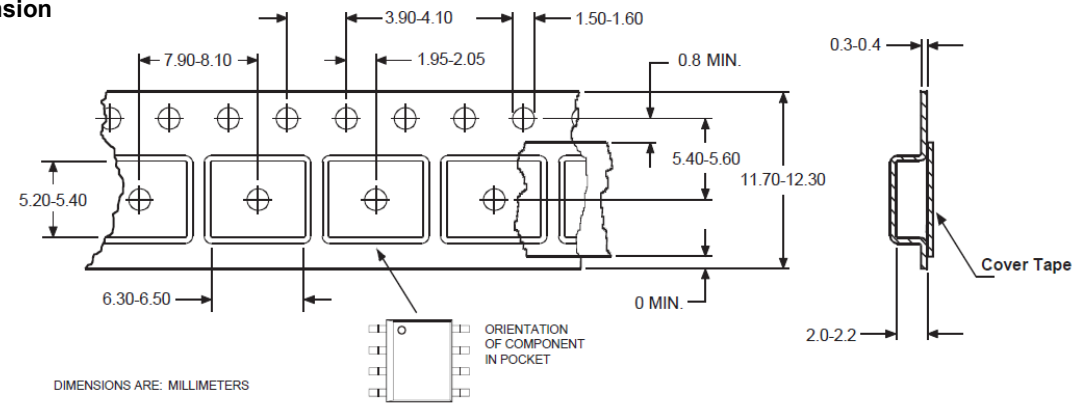


DIMENSIONS ARE: MILLIMETERS

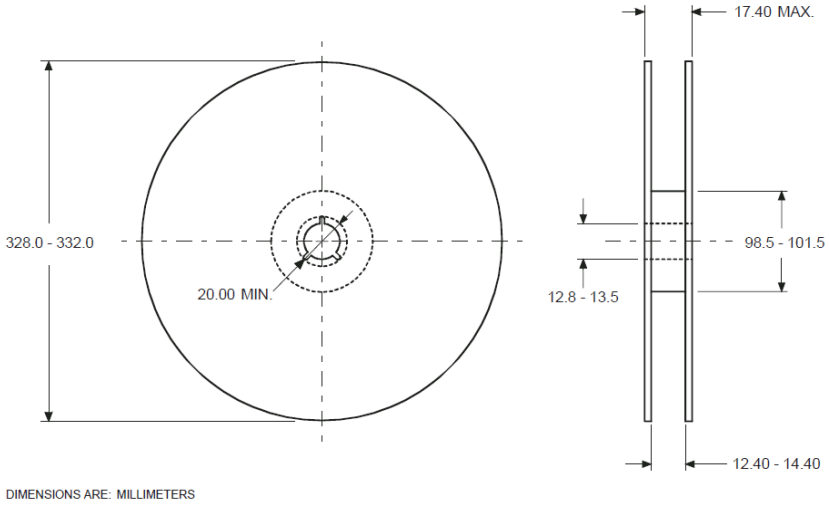
Layout Pattern

Package Information

Tape Dimension

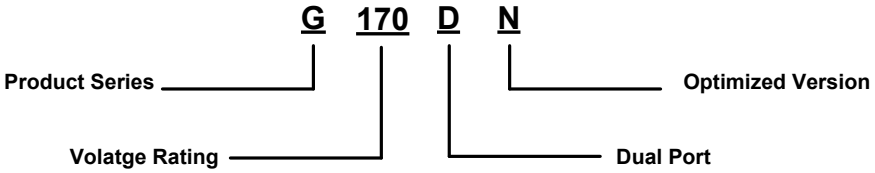


Reel Dimension



Marking and Order Information

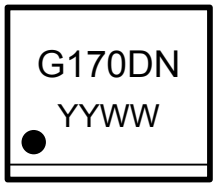
Part Number System



Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
G170DN	SOP-8	0.09g	Tape & Reel	2,500pcs/reel	RoHS compliant

Marking



YYWW = Date Code

Operating temperature range

-65℃～1 50℃

Storage temperature range

-65℃～1 50℃

MSL：moisture sensitivity level

MSL：1-unlimited

Reflow Soldering and Rework Recommendations

- Recommended reflow methods, Recommended reflow methods: IR, Vapor phase oven, hot air oven, wave solder.
- Devices can be cleaned using standard industry methods and solvents.
- If a device is removed from the board, it should be discarded and replaced with a new device.
- Leaded devices are not designed to be compatible with wave soldering manufacturing operations.
- Lead free reflow curve.