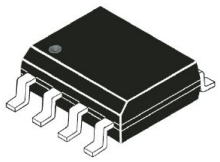
Description

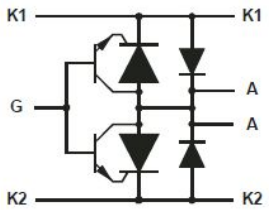
This device is especially designed to protect Subscriber Line Interface Circuit (SLIC) against transient overvoltage. Positive overloads are clipped with 2 diodes. Negative surges are suppressed by 2 Thyristors, their breakdown voltage being referenced to VBAT through the gate. This component presents 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
- MLS: Lever 1 - unlimited



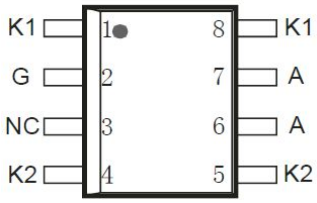
Schematic Diagram

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

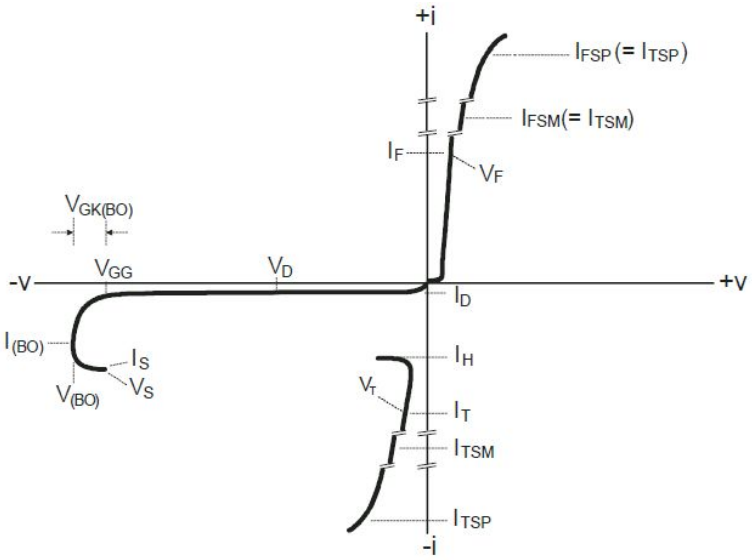


Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Non-repetitive peak on-state pulse current 10/1000μs 5/310μs 2/10μs	I_{pp}	 30 40 120	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}	-120	V
Maximum voltage GATE/LINE	V_{GKRM}	-120	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

Electrical Characteristics (T_A=25°C)

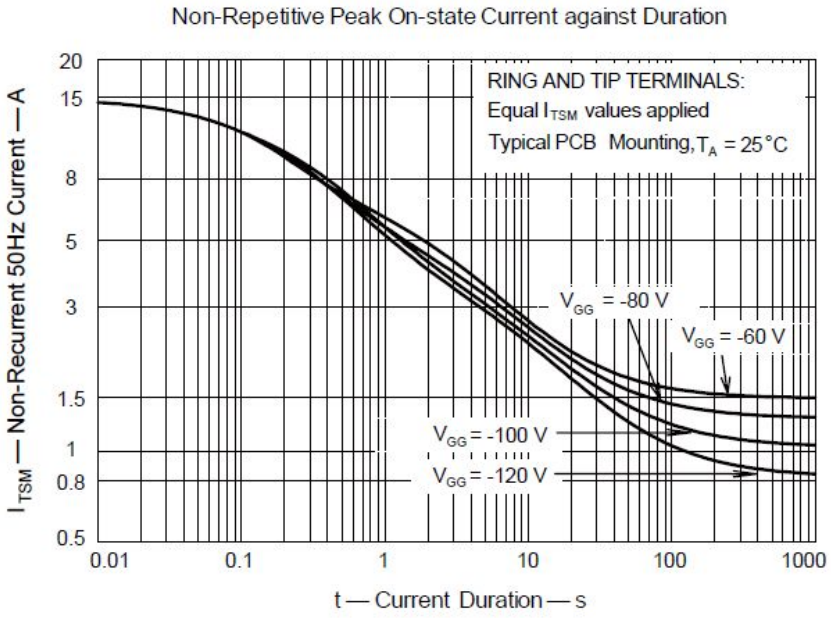
Parameter	Symbol
Off-state current	I_D
Holding current	I_H
Breakover voltage	$V_{(BO)}$
Forward voltage	V_F
Peak forward recovery voltage	V_{FRM}
Gate-cathode impulse breakover voltage	$V_{GK(BD)}$
Gate reverse current	I_{GKS}
Gate trigger current	I_{GT}
Gate-cathode trigger voltage	V_{GT}
Cathode-anode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



Parameters Related to the Diode (T_A =25°C)

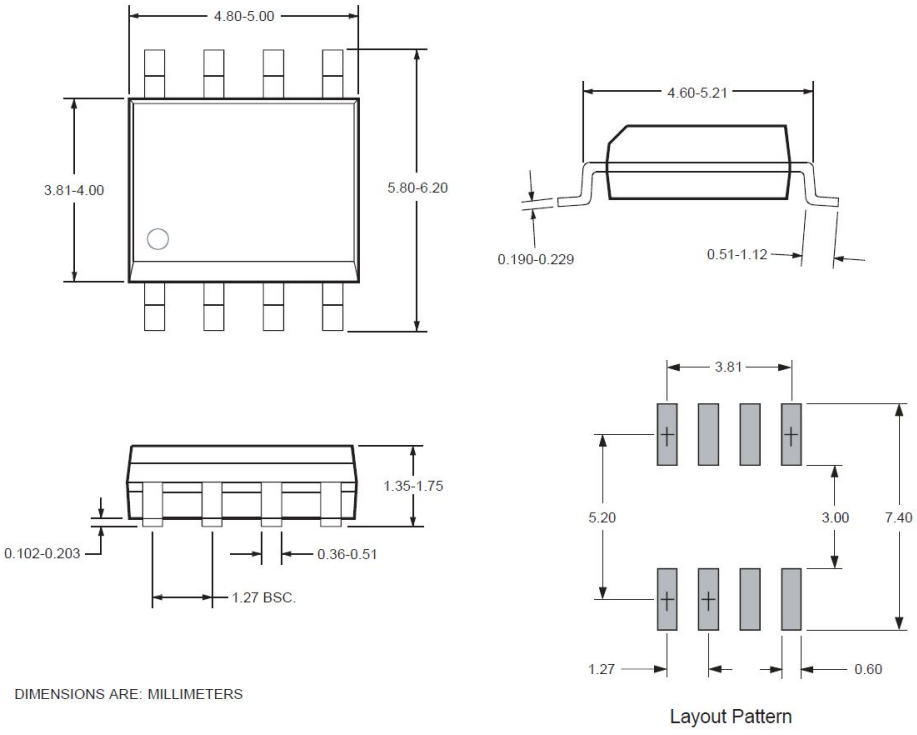
Symbol	Test Conditions	Min.	Typ.	Max.	Unit
V_F forward voltage	I_F=5A, t_w=200μs			3	V
V_{FRM} peak forward recovery voltage	2/10μs, I_F=100A,Rs=50Ω, di/dt=80A/μs			10	V

Parameters Related to the Thyristor (T_A =25°C)



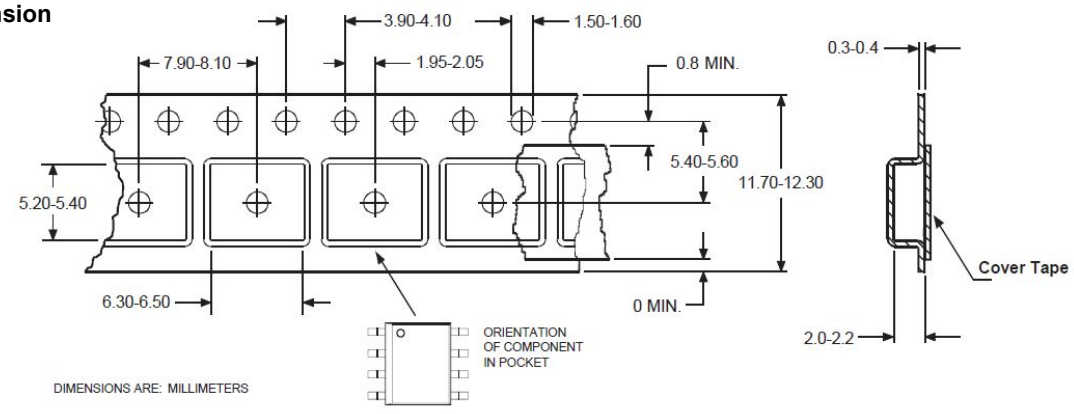
Symbol	Test Conditions	Min.	Typ.	Max.	Unit
I_D off-state current	V_D=-170V, V_{GK}=0 T_J=25°C			-5	μA
	V_D=-170V, V_{GK}=0 T_J=85°C			-50	μA
V_{BO} breakover voltage	2/10μs, I_{TM}=100A, Rs=50Ω, di/dt=-80A/μs, V_{GG}=-48V			-60	V
I_H holding current	I_T=-1A, di/dt=1A/ms, V_{GG}=-100V	-150			mA
I_{GAS} gate reverse current	V_{GG}=V_{GK}=-167V, VKA=0 T_J=25°C			-5	μA
	V_{GG}=V_{GK}=-167V, VKA=0 T_J=85°C			-50	μA
I_{GT} gate trigger current	I_T=3A, tp(g)≥20μs, V_{GG}=-100V			5	mA
V_{GT} gate trigger voltage	I_T=3A, tp(g)≥20μs, V_{GG}=-100V			2.5	V
C_{AK} anode-cathode offstate capacitance	f=1MHz,Vd=1V,I_G=0 V_D=-3V			110	pF
	f=1MHz,Vd=1V,I_G=0 V_D=-48V			55	pF

Product Dimension

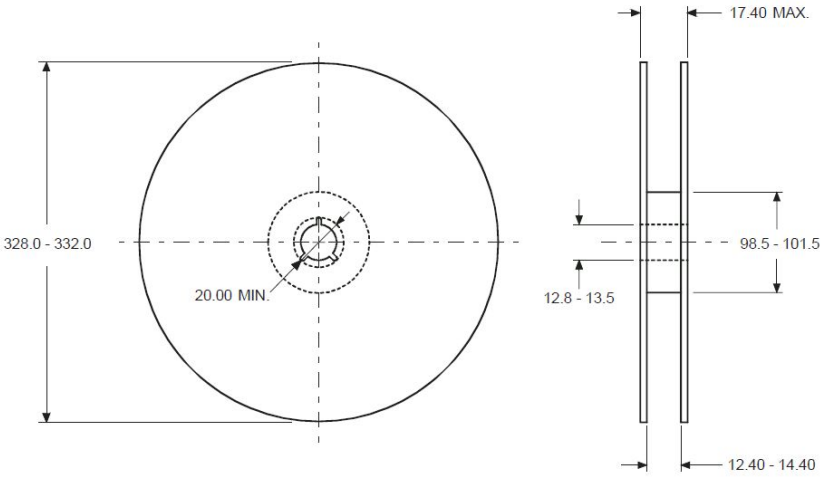


Package Information

Tape Dimension



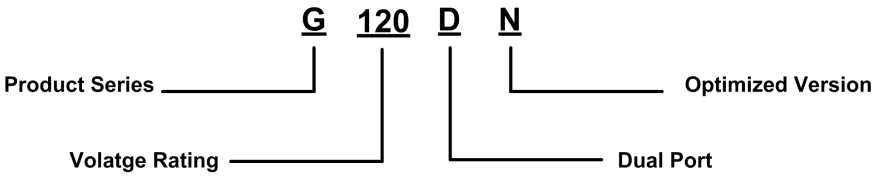
Reel Dimension



DIMENSIONS ARE: MILLIMETERS

Marking and Order Information

Part Number System



Order Information

Device	Package	Net Weight	Carrier	Quantity	HSF Status
G120DN	SOP-8	0.0080g	Tape & Reel	2,500pcs/reel	RoHS compliant

Marking

YYWW = Date Code