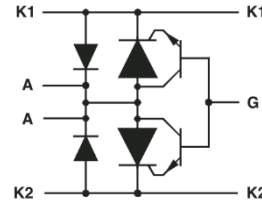
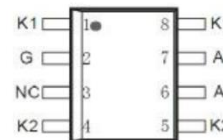


High Voltage Ringing SLIC Protector

Waveshape	I _{PPSM}
10/700us	50A
10/1000us	40A


SOP-8

Descriptions

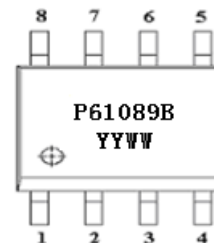
This device is especially designed to protect Subscriber Line Interface Circuit (SLIC) against transient overvoltage. Positive overloads are clipped with 2 diodes. Negative surges are suppressed by 2 Thyristors, their breakdown voltage being referenced to VBAT through the gate. This component presents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

Package & Device Symbol

Pin configuration (Top view)

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

Features

- Dual programmable transient suppressor
- Wide battery voltage supports
- Low gate triggering current
- High holding current.
- MSL: Level 3



P61089B= Device Code
 Y = Special Code
 Y =Year
 WW =Week

Marking
Applications

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

Order information

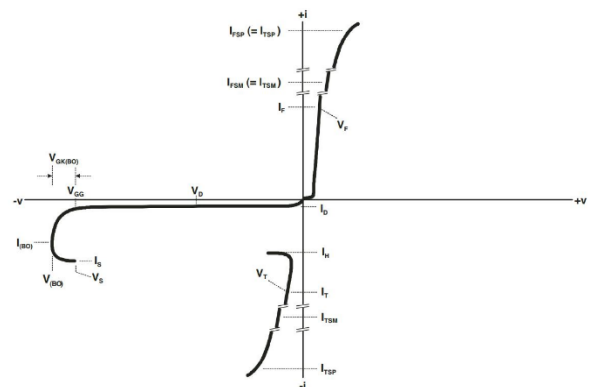
Device	Package	Shipping
SPD61089-8/TR	SOP-8L	4000/Reel&Tape

Absolute Maximum ratings

Parameter		Symbol	Value	Unit
Non-repetitive peak on-state pulse current	10/1000us (Telcordia (Bellcore) GR-1089-CORE, Issue 3)	I _{PPSM}	40	A
	5/310us (ITU-T K.20, K.21& K.45, K.44 open-circuit voltage wave shape 10/700 μs)		50	
	2/10us (Telcordia (Bellcore) GR-1089-CORE, Issue 3)		120	
Non repetitive peak on-state current (sinusoidal) 60Hz	0.1s	I _{TSM}	6.5	A
	1s		4.5	
	5s		2.4	
	30s		1.3	
	900s		0.72	
Repetitive peak off-state voltage, V _{GK} =0		V _{DRM}	-170	V
Repetitive peak gate-cathode voltage, V _{KA} =0		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 _{θJA}	120	°C/W

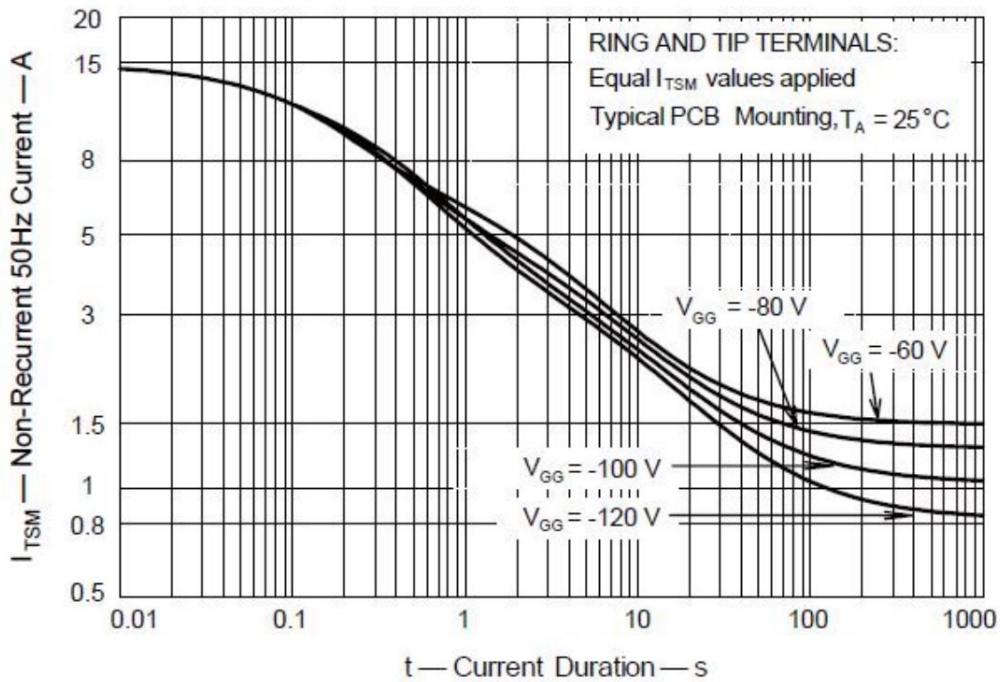
Parameter Measurement Information

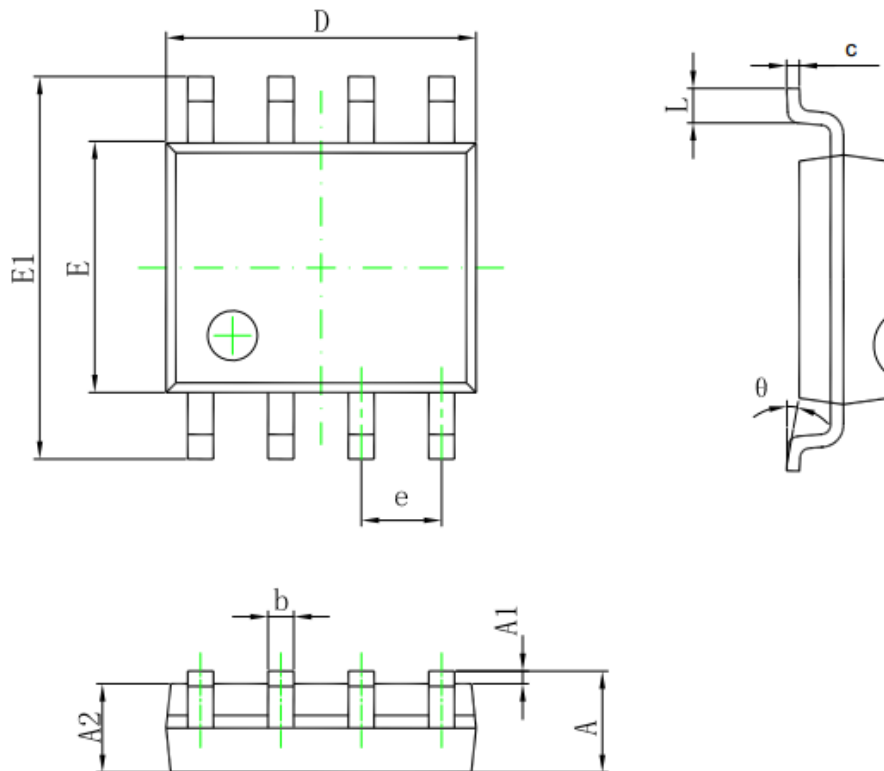
Parameter	Symbol
Off-state current	I _D
Holding current	I _H
Breakover voltage	V _(BO)
Forward voltage	V _F
Peak forward recovery voltage	V _{FRM}
Gate-cathode impulse breakover voltage	V _{GK(BD)}
Gate reverse current	I _{GKS}
Gate trigger current	I _{GT}
Gate-cathode trigger voltage	V _{GT}
Cathode-anode off-state capacitance	C _{KA}



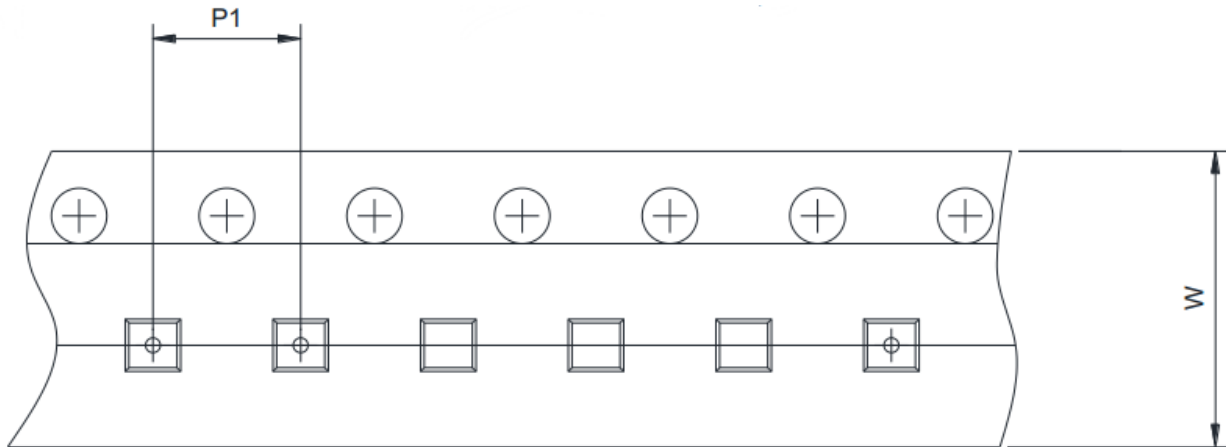
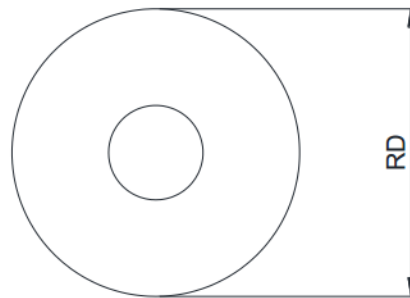
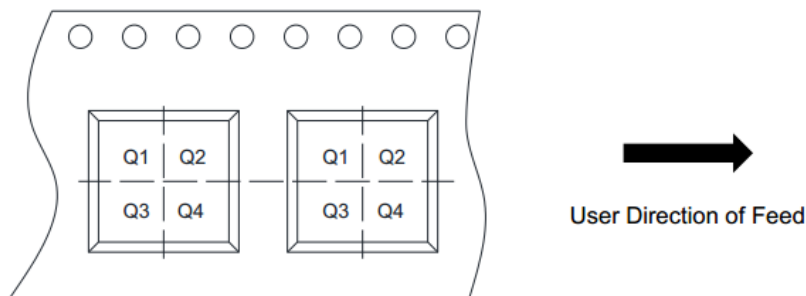
Electronics Characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Forward voltage	V_F	$I_F=5A, t_w=200\mu s$			3	V
Impulse peak forward recovery voltage	V_{FRM}	$2/10\mu s, I_F=100A, R_S=50\Omega, di/dt=80A/\mu s$			10	V
Off-state current	I_D	$V_D = -170V, V_{GK}=0, T_J = 25^\circ C$			-5	uA
		$V_D = -170V, V_{GK}=0, T_J = 85^\circ C$				
Impulse breakover voltage	$V_{(BO)}$	$2/10\mu s, I_{TM}=100A, R_S=50\Omega, di/dt=80A/\mu s, V_{GG}=-100V$			-112	V
Holding current	I_H	$I_T=-1A, di/dt=1A/ms, V_{GG}=-100V$	-150			mA
Gate reverse current	I_{GAS}	$V_{GG}=V_{GK} = -167V, V_{KA}=0, T_J = 25^\circ C$			-5	uA
		$V_{GG}=V_{GK} = -167V, V_{KA}=0, T_J = 85^\circ C$				
Gate trigger current	I_{GT}	$I_T=3A, t_{p(g)}\geq 20\mu s, V_{GG}=-100V$			5	mA
Gate trigger voltage	V_{GT}	$I_T=3A, t_{p(g)}\geq 20\mu s, V_{GG}=-100V$			2.5	V
Anode-cathode offstate capacitance	C_{KA}	$f=1MHz, V_D=1V, I_G=0, V_D=-3V$			110	pF
		$f=1MHz, V_D=1V, I_G=0, V_D=-48V$			55	

Non-Repetitive Peak On-state Current against Duration


Package outline dimensions
SOP-8L


Symbol	Dimensions In Millimeters (mm)		
	Min.	Typ.	Max.
A	1.35	1.55	1.75
A1	0.05	0.15	0.25
A2	1.25	1.40	1.65
b	0.33	-	0.51
c	0.17	-	0.26
D	4.70	4.90	5.10
E	3.70	3.90	4.10
E1	5.80	6.00	6.20
e	1.27 BSC		
L	0.40	-	1.27
θ	0°	-	8°

Tape Dimensions

Reel Dimensions

Quadrant Assignments For PIN1 Orientation In Tape


RD	Reel Dimension	<input type="checkbox"/> 7inch	<input checked="" type="checkbox"/> 13inch		
W	Overall width of the carrier tape	<input type="checkbox"/> 8mm	<input checked="" type="checkbox"/> 12mm		
P1	Pitch between successive cavity centers	<input type="checkbox"/> 2mm	<input type="checkbox"/> 4mm	<input checked="" type="checkbox"/> 8mm	
Pin1	Pin1 Quadrant	<input checked="" type="checkbox"/> Q1	<input type="checkbox"/> Q2	<input type="checkbox"/> Q3	<input type="checkbox"/> Q4

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