

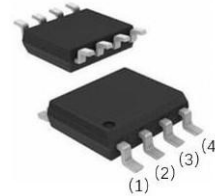


P61089B

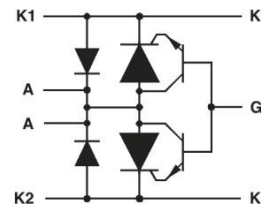
http://www.wdsemi.com

High Voltage Ringing SLIC Protector

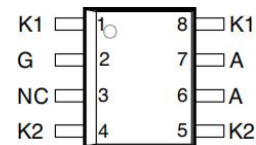
Waveshape	I _{PPSM}
5/320μs	50A
10/1000μs	40A
1.2/50μs	120A



SOP-8L



Package & Device Symbol



Pin configuration (Top view)

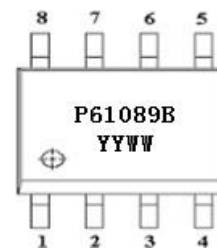
Descriptions

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.

Features

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

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



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
P61089B	SOP-8L	4000/Reel&Tape

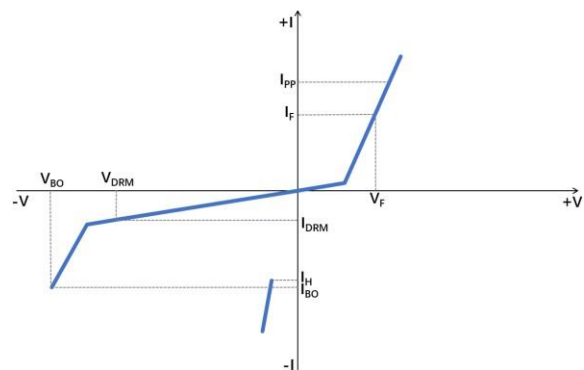


Absolute Maximum ratings

Parameter		Symbol	Value	Unit
Non-repetitive peak on-state pulse current	10/1000 μ s (Telcordia (Bellcore) GR-1089-CORE, Issue 2, February 1999, Section 4)	I _{PPSM}	40	A
	5/320 μ s (ITU-T K.20, K.21& K.45, K.44 open-circuit voltage wave shape 10/700 μ s)		50	
	1.2/50 μ s (Telcordia (Bellcore) GR-1089-CORE, Issue 2, February 1999, Section 4)		120	
Non repetitive peak on-state current (sinusoidal) 60Hz	0.5s	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

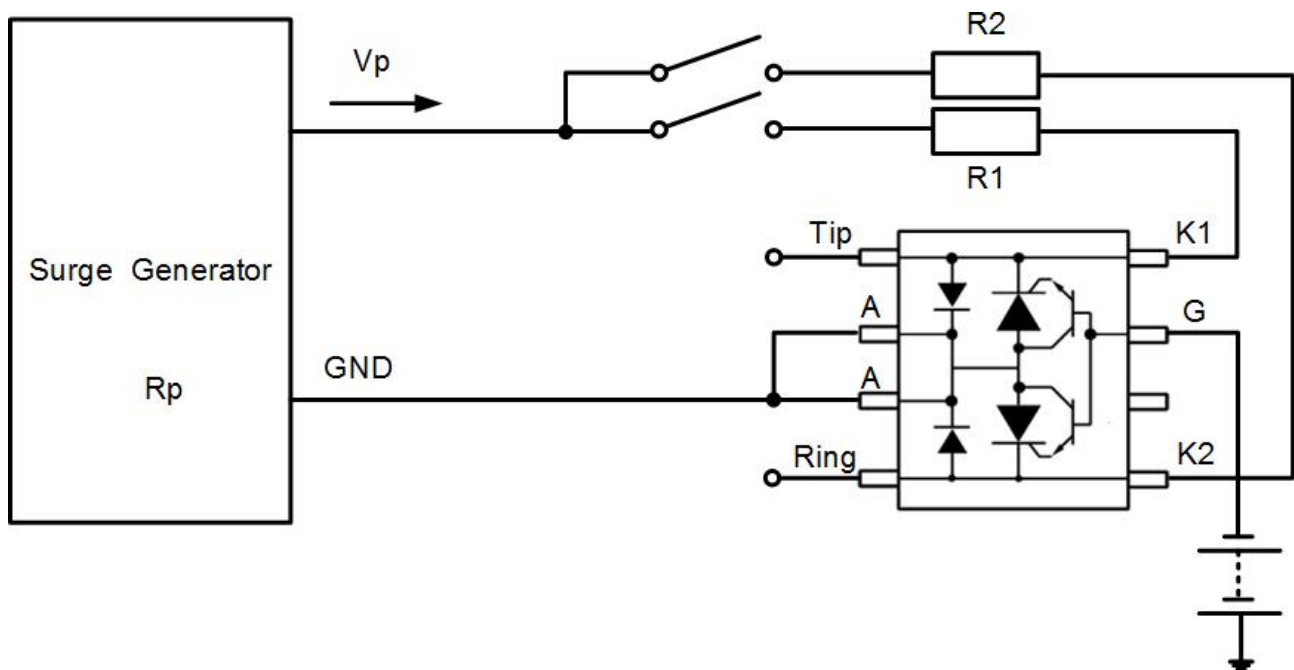
Parameter Measurement Information

Parameter	Symbol
Off-state current	I _{DRM}
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	μA
		$V_D=-170V, V_{GK}=0, T_J=85^\circ C$				
Impulse breakover voltage	$V_{(BO)}$	$2/10\mu s, I_{TM}=100A, R_S=50\Omega, di/dt=80A/\mu s, V_{GK}=-100V$			-112	V
Holding current	I_H	$I_T=-1A, di/dt=1A/ms, V_{GK}=-100V$	-150			mA
Gate reverse current	I_{GAS}	$V_{GK}=V_{GK}=-167V, V_{KA}=0, T_J=25^\circ C$			-5	μA
		$V_{GK}=V_{GK}=-167V, V_{KA}=0, T_J=85^\circ C$				
Gate trigger current	I_{GT}	$V_{AK}=40V, Value=3.5V, t_W=10ms$			5	mA
Gate trigger voltage	V_{GT}	$V_{AK}=40V, Value=3.5V, t_W=10ms$			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	

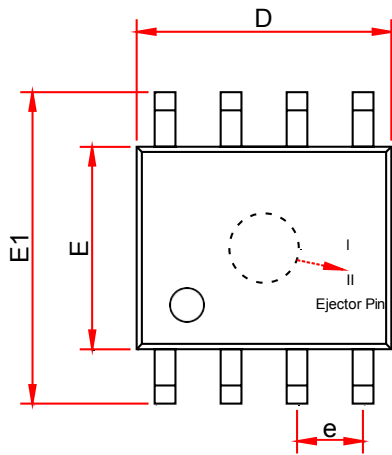
Surge Test Circuit


Pulse(μs)		$V_p(V)$	$I_{pp}(A)$	$R_p(\Omega)$	$R_1(\Omega)$	$R_2(\Omega)$
T_{rise}	T_{fall}					
10	700	± 2000	± 50	40	0	0
10	1000	± 400	± 40	10	0	0
1.2	50	± 5000	± 120	2	40	40

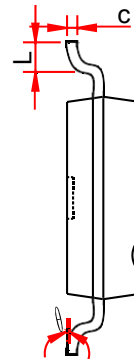


Package Outline Dimensions

SOP-8L



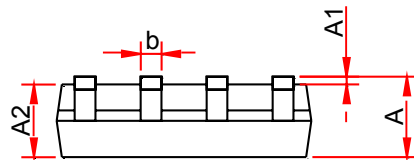
TOP VIEW



SIDE VIEW

I) NA

II)



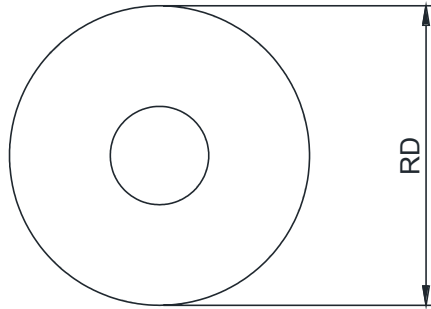
SIDE VIEW

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	0.15	-	0.26
D	4.70	4.90	5.10
E	3.70	3.90	4.10
E1	5.80	6.00	6.20
e	1.27BSC		
L	0.40	-	1.27
θ	0°	-	8°

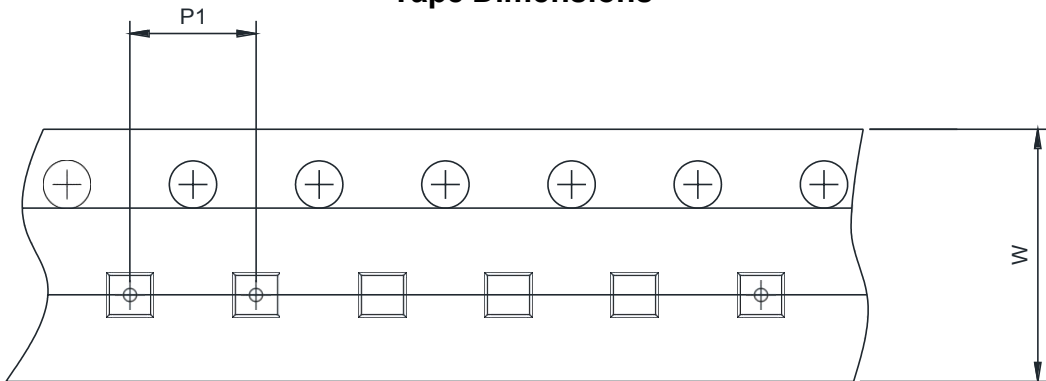


Tape and Reel Information

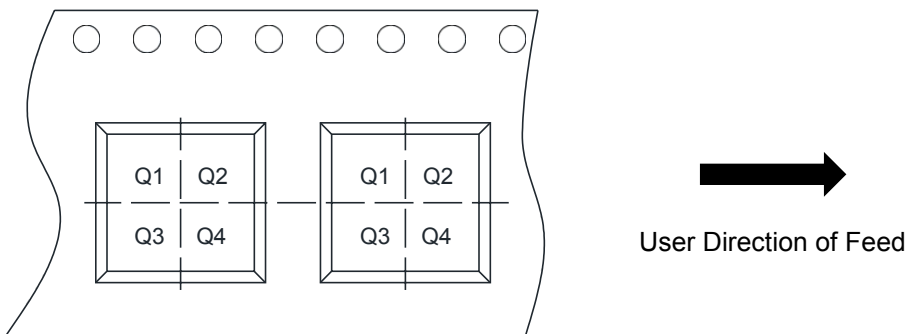
Reel Dimensions



Tape 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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