LP1P882CXXP01 Series

Electrostatic Discharged Protection Devices

Descriptions

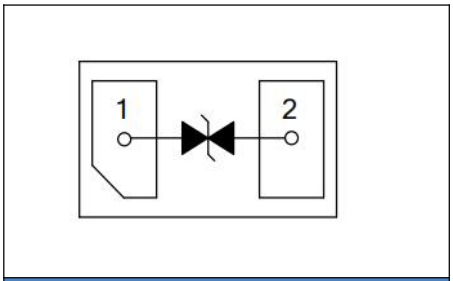
The LP1P882CXXP01 Series is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.It offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs.

It is designed to protect sensitive semiconductor components from damage or upset due to electrostatic discharge (ESD), lightning,electrical fast transients (EFT), and cable discharge events (CDE).

Features

- IEC61000-4-2 ESD 15KV Air, 8KV contact compliance
- SOD882 surface mount package
- Working voltage: 3.3V、5V、12V、15V、24V
- Low leakage current
- Low operating and clamping voltages
- Solid-state silicon avalanche technology
- RoHS compliant
- Solder reflow temperature: Pure Tin-Sn, 260~270℃
- Flammability rating UL 94V-0
- Meets MSL level 1, per J-STD-020

Schematic

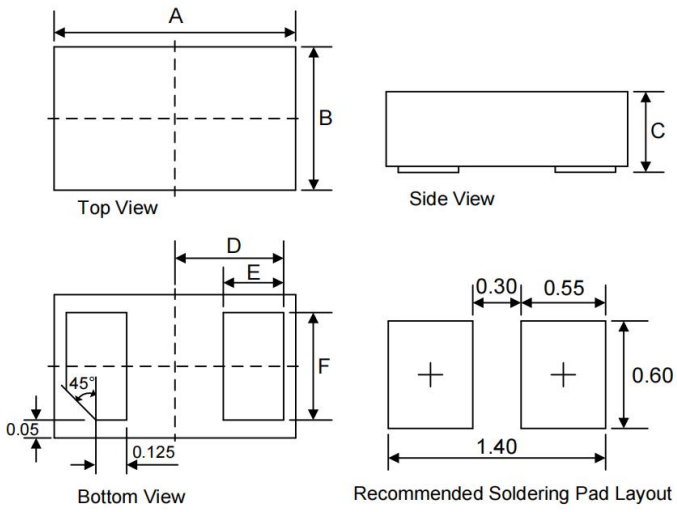


Pin Configuration

Applications

- Cellular Handsets & Accessories
- Notebooks & Handhelds
- Digital Cameras
- Personal Digital Assistants (PDAs)
- Portable Instrumentation

Dimensions (SOD-882)



Symbol	Dimension			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	0.95	1.05	0.037	0.041
B	0.55	0.65	0.022	0.026
C	0.32	0.55	0.013	0.022
D	0.45		0.018	
E	0.20	0.30	0.008	0.012
F	0.45	0.55	0.018	0.022

Maximum Ratings(T_A=25℃ unless otherwise noted)

Rating	Symbol	Value	Unit
ESD voltage (Contact discharge)	V_{ESD}	±8	kV
ESD voltage (Air discharge)		±15	
Storage & operating temperature range	T_{STG} ,T_J	-55~+150	℃

Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number	Reverse Stand-Off Voltage	Breakdown Voltage @I_T	Test Current	Maximum Clamping Voltage @I_{PP}	Peak Pulse Current @tp=8/20μs	Reverse Leakage Current @V_{RWM}	Capacitance At 1MHZ 0V
	V_{RWM}(V)	V_{BR}(V)min	I_T(mA)	V_C(V)	I_{PP}(A)	I_R(μA)	Cj(pF)
LP1P882C03P01	3.3	4.0	1	10	8	5	20
LP1P882C05P01	5.0	6.0	1	12	5	1	10
LP1P882C12P01	12.0	13.3	1	25	3	1	10
LP1P882C15P01	15.0	16.7	1	35	2.5	1	10
LP1P882C24P01	24.0	26.7	1	50	2	1	10

Ratings and Characteristic Curves (T_A=25℃ unless otherwise noted)

Figure 1. Peak Pulse Power Rating Curve

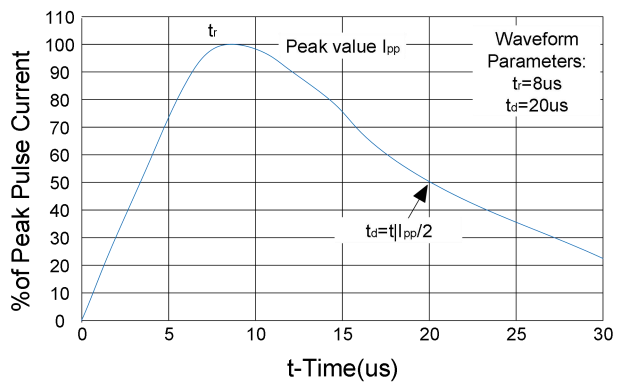


Figure 2. Pulse Derating Curve

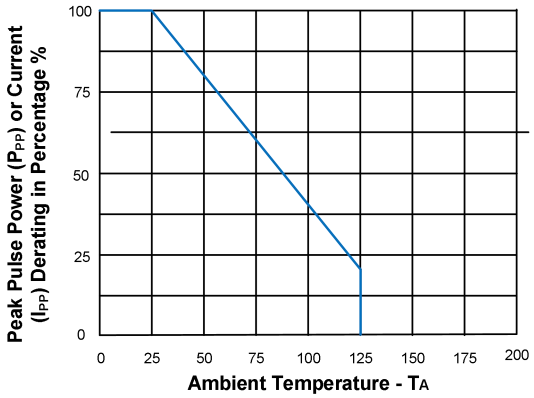


Figure 3. Typical Junction Capacitance

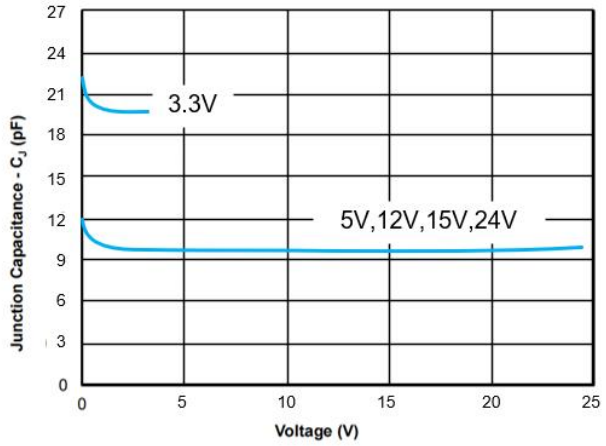
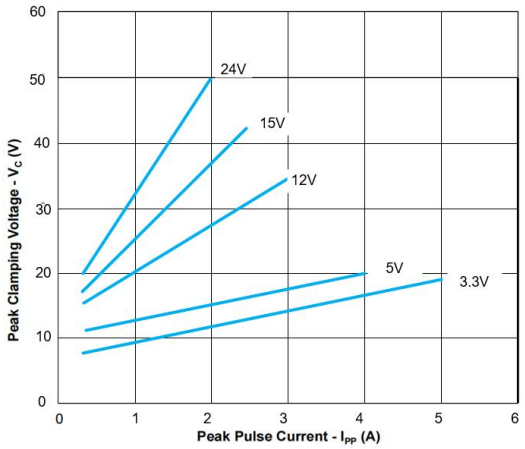
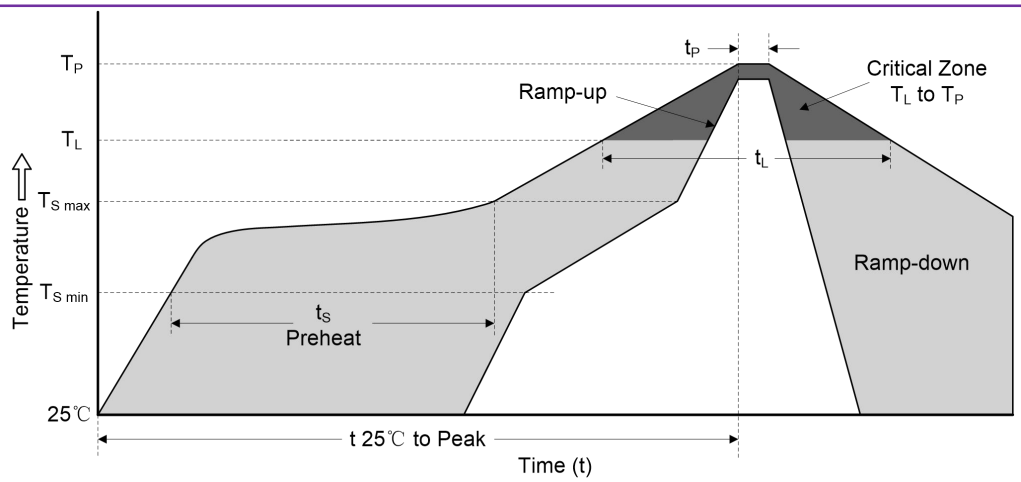


Figure 4. Clamping Voltage Vs Peak Pulse Current



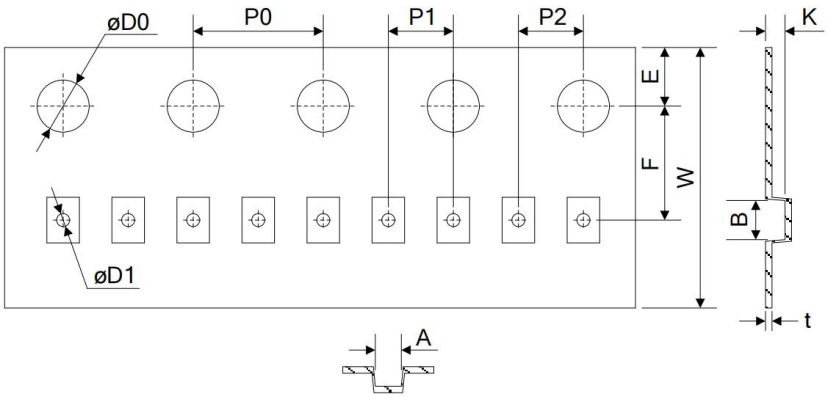
Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Pre heat	-Temperature Min ($T_{S\ min}$)	150℃
	-Temperature Max ($T_{S\ max}$)	200℃
	-Time (min to max) (t_S)	60-180 seconds
Average ramp-up rate (T_L to T_P)		3℃/second max.
$T_{S\ max}$ to T_L -Ramp-up Rate		3℃/second max.
Reflow	-Temperature (T_L) (Liquidus)	217℃
	-Time (min to max) (t_S)	60-150 seconds
Peak Temperature (T_P)		260(+0/-5)℃
Time within 5℃ of actual Peak Temperature (t_P)		20-40 seconds
Ramp-down Rate		6℃/second max.
Time 25℃ to Peak Temperature(T_p)		8 minutes max.
Do not exceed		260℃

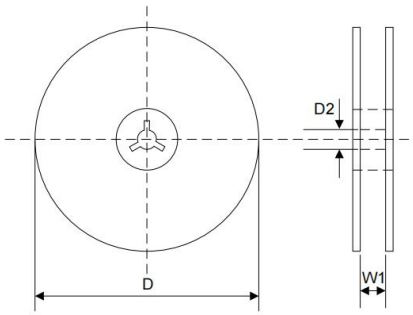
Packaging

Tape



Symbol	Dimension (mm)
W	8.00±0.30
P0	4.00±0.10
P1	2.00±0.10
P2	2.00±0.10
D0	Φ1.55±0.10
D1	Φ0.40±0.05
E	1.75±0.10
F	3.50±0.10
A	0.75±0.10
B	1.15±0.10
K	0.60±0.05
t	0.20±0.05

Reel



D	Φ178.0±2.0
D2	Φ13.00
W1	9.5

Quantity: 10000PCS