

Descriptions

The LP1P923C05P01 of Transient Voltage Suppressors is designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computer, and PDAs.

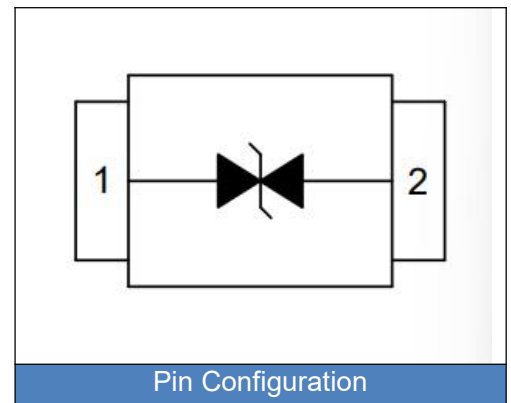
It offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs.

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
- ◆ SOD-923 surface mount package
- ◆ Working voltage: 5V
- ◆ 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



Applications

- ◆ Cellular handsets and accessories
- ◆ Portable digital assistants
- ◆ Notebooks & handhelds
- ◆ Digital cameras
- ◆ MP3 players
- ◆ Peripherals

Maximum Ratings and Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Rating	Symbol	Value	Unit
Peak pulse power ($t_p=8/20\mu\text{s}$)	P_{PP}	60	W
ESD voltage (Contact discharge)	V_{ESD}	± 8	kV
ESD voltage (Air discharge)		± 15	
Storage & operating temperature range	T_{STG}, T_J	$-55\sim+150$	$^{\circ}\text{C}$

Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Condition	Min.	Typ	Max.	Unit
Reverse stand-off voltage	V_{RWM}				5	V
Reverse breakdown voltage	V_{BR}	$I_{BR}=1\text{mA}$	6			V
Reverse leakage current	I_R	$V_R=5\text{V}$			1	μA
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=1\text{A}$		8.5		V
Clamping voltage ($t_p=8/20\mu\text{s}$)	V_C	$I_{PP}=6\text{A}$		10		V
Peak pulse current ($t_p=8/20\mu\text{s}$)	I_{PP}				6	A
Off state junction capacitance	C_J	$0\text{Vdc}, f=1\text{MHz}$		12		pF

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

Figure 1. Pulse waveform (8/20μs)

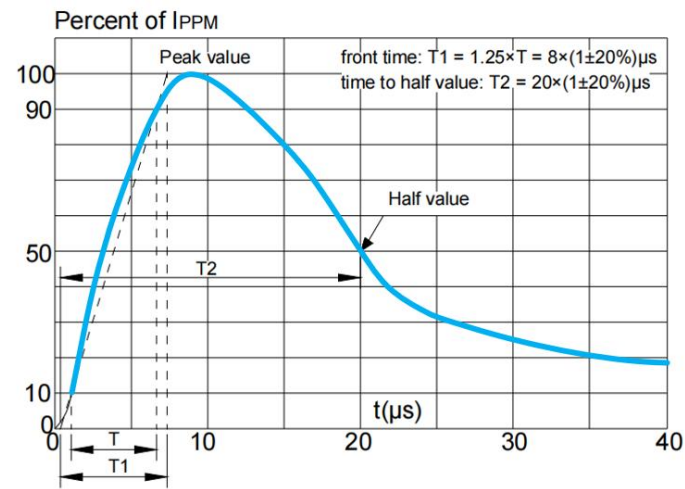


Figure 2. Pulse Derating Curve

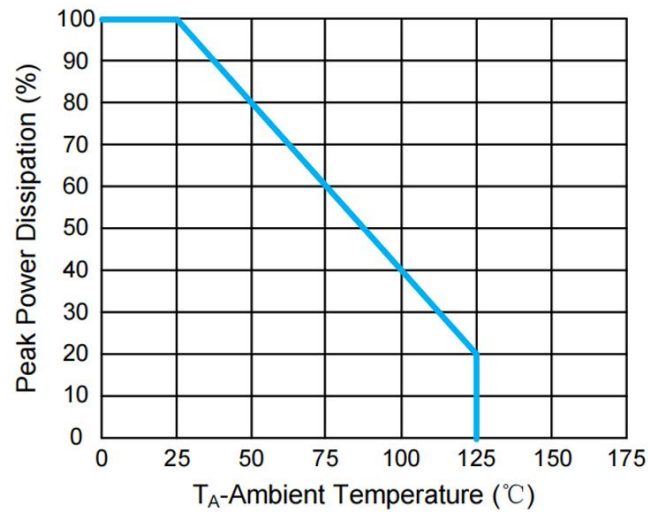


Figure 3. Typical Junction Capacitance

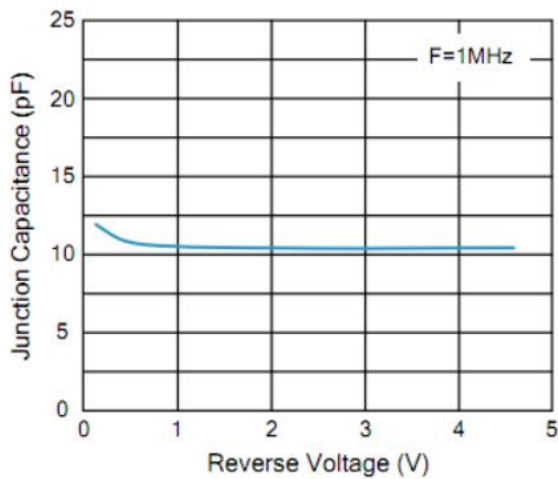
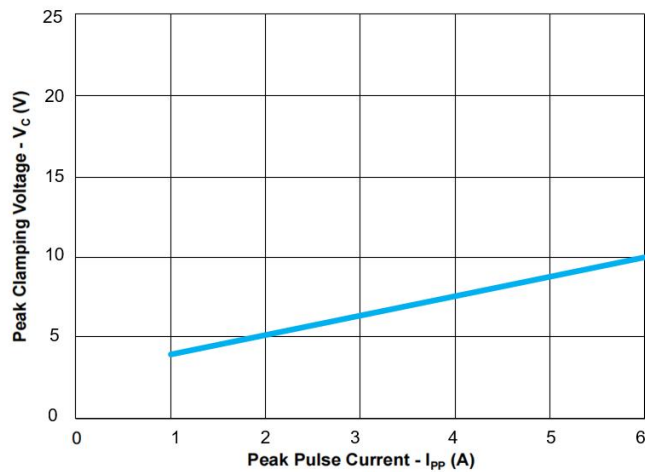
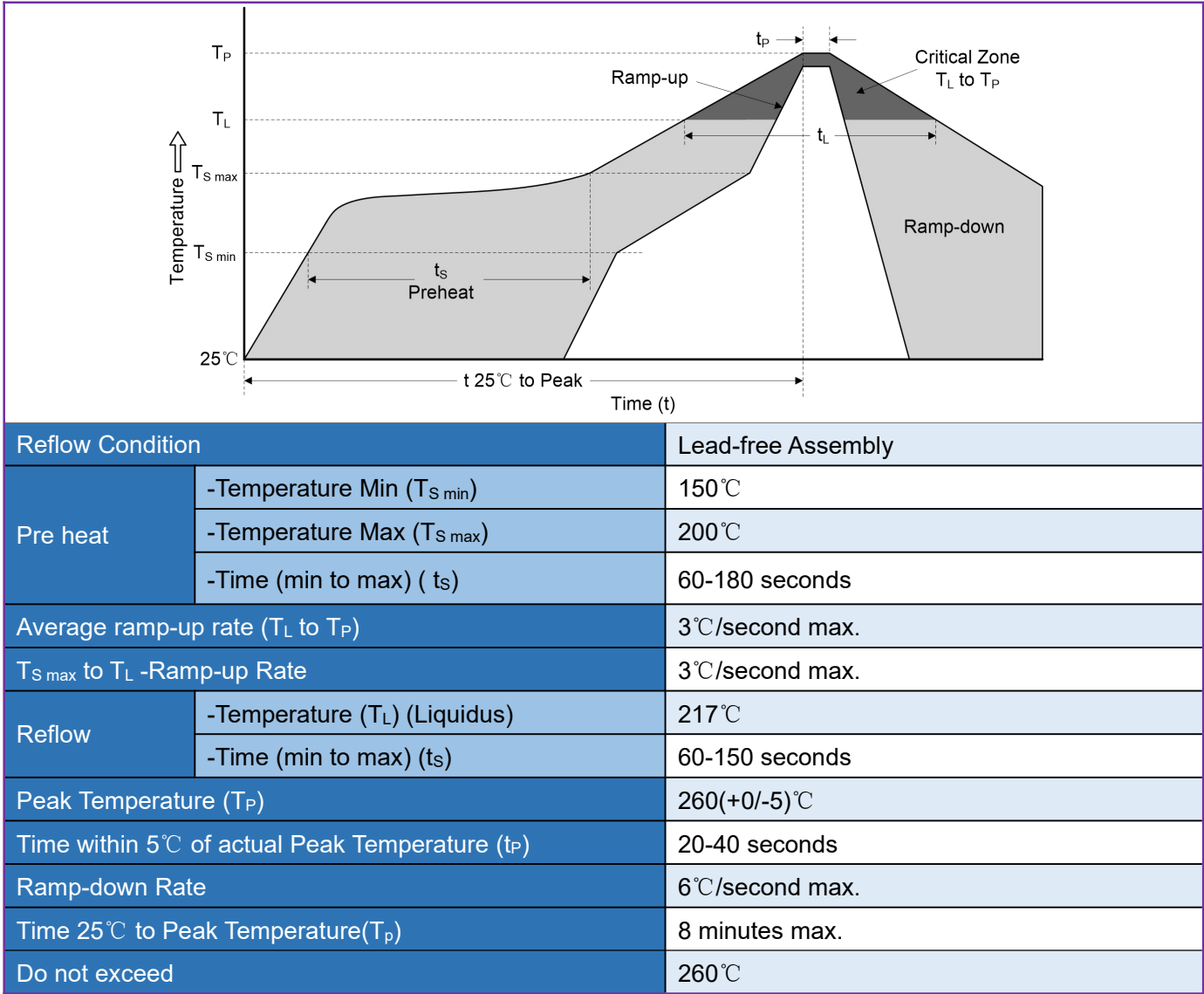


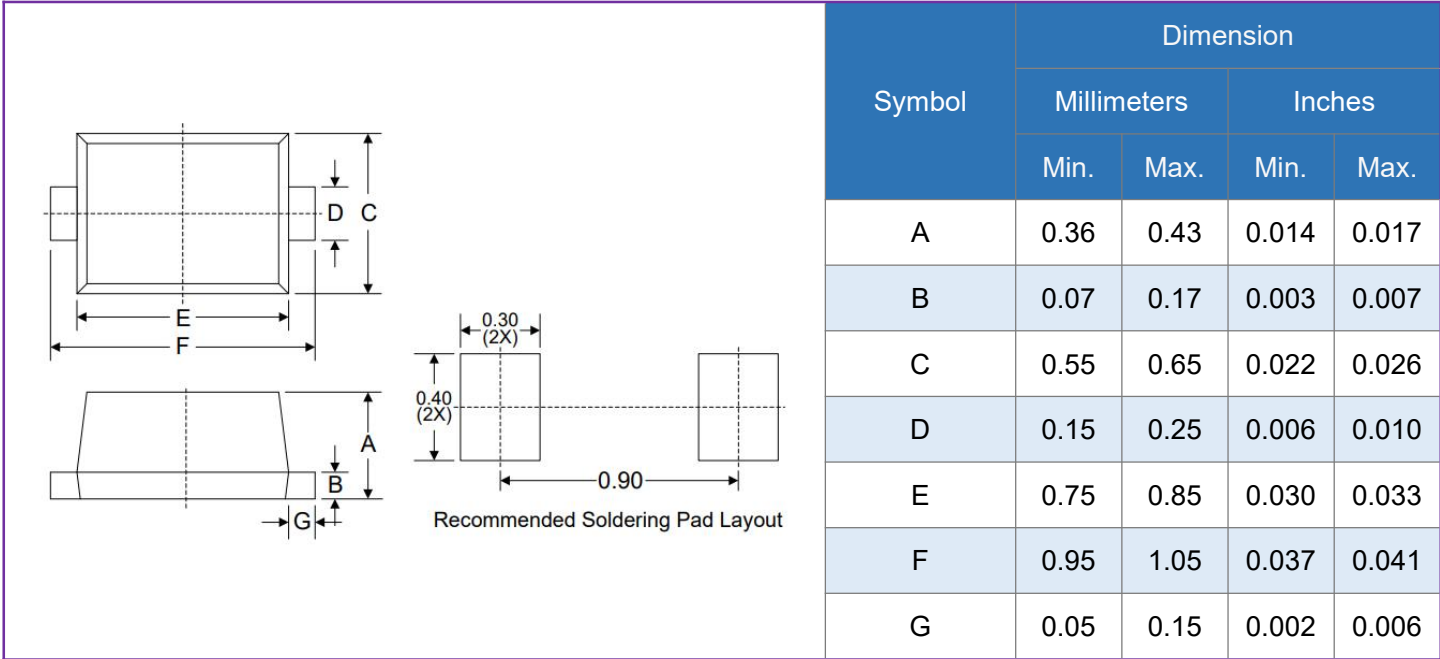
Figure 4. Clamping Voltage vs. Peak Pulse Current



Reflow Soldering Parameters



Dimensions (SOD-923)



Packaging

