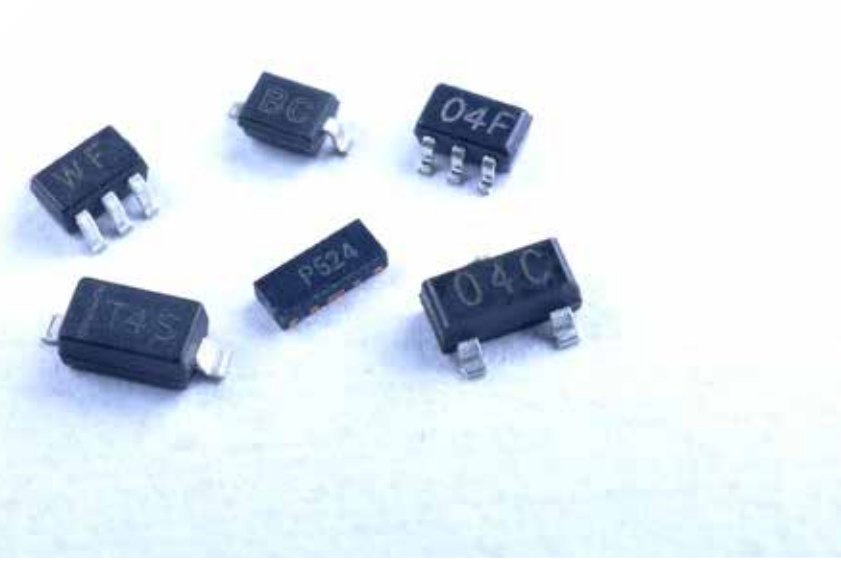
RUILON

瑞隆源电子



TVS/ESD Arrays

RLST23A712CH Series

361° Circuit Protection System

TVS/ESD Arrays - RLST23A712CH Series

Features

- 600 Watts Peak Pulse Power per Line (tp = 8/20μs)
- Protects two +12V to -7V lines
- Low Leakage Current
- Low operating and clamping voltages
- Lead Free/RoHS compliant
- Solid-state silicon avalanche technology
- Provides ESD protection to IEC61000-4-2(ESD):
  ±30kV (air discharge)
  ±30kV (contact discharge)

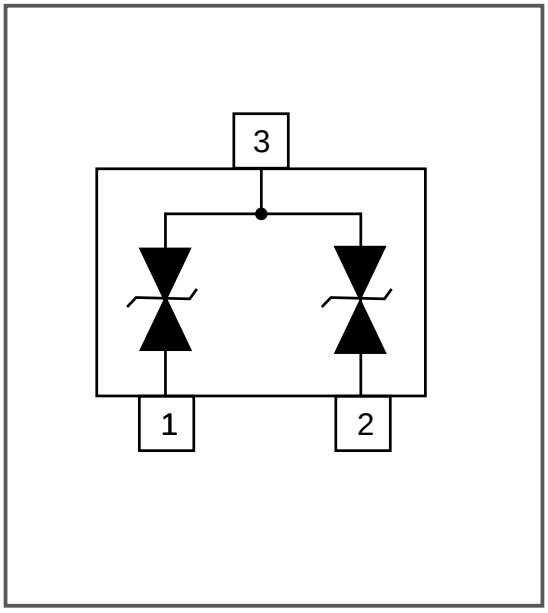
Mechanical Characteristics

- SOT-23 package
- Molding compound flammability rating: UL 94V-0
- Quantity Per Reel : 3,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

Applications

- Networks
- RS485 Ports
- Switching Systems
- Desktops, Servers, Notebooks & Handhelds
- Laser Diode Protection
- Base Stations

Pinout and Functional Block Diagram



TVS/ESD Arrays - RLST23A712CH Series

Absolute Maximum Rating

Rating	Symbol	Value	Units
Peak Pulse Power (tp =8/20μs)	P_{PK}	600	Watts
ESD Voltage (Contact)	V_{ESD}	±30	Kv
ESD Voltage (Air)	V_{ESD}	±30	Kv
Lead Soldering Temperature	T_L	260 (10 sec.)	°C
Operating Temperature	T_J	-55 to +125	°C
Storage Temperature	T_{STG}	-55 to +150	°C

Electrical Characteristics(@ 25°C Unless Otherwise Specified)

Pin3 to Pin1 /Pin2

Parameter	Symbol	Conditions	MIN	TYP	MAX	Units
Reverse Stand-Off Voltage	V_{RWM}		-	-	7	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	7.5	-	-	V
Reverse leakage current	I_R	V_R =7V	-	-	0.1	μA
Clamping voltage (tp=8/20s)	V_C	I_{PP}=36A	-	-	17	V
Off state junction capacitance	C_J	0Vdc,f=1MHZ between I/O pins and GND	-	-	75	pF

Pin1/Pin2 to Pin3

Parameter	Symbol	Conditions	MIN	TYP	MAX	Units
Reverse Stand-Off Voltage	V_{RWM}		-	-	12	V
Reverse Breakdown Voltage	V_{BR}	I_{BR}=1mA	13.3	-	-	V
Reverse leakage current	I_R	V_R =12V	-	-	0.1	μA
Clamping voltage (tp=8/20s)	V_C	I_{PP}=36A	-	-	28	V
Off state junction capacitance	C_J	0Vdc,f=1MHZ between I/O pins and GND	-	-	75	pF

TVS/ESD Arrays - RLST23A712CH Series

Characteristic Curves

Fig1. 8/20μs Pulse Waveform

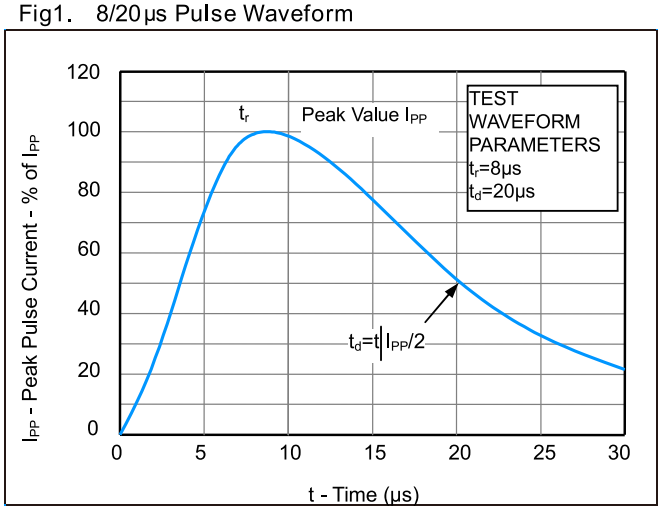


Fig2. ESD Pulse Waveform (according to IEC 61000-4-2)

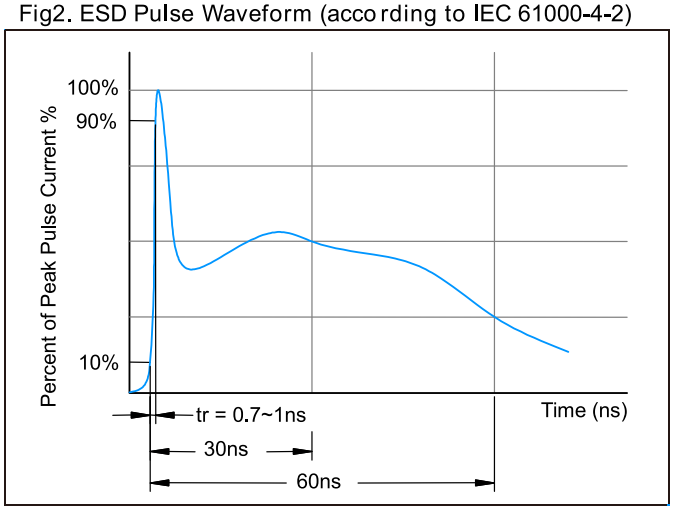


Fig3. Power Derating Curve

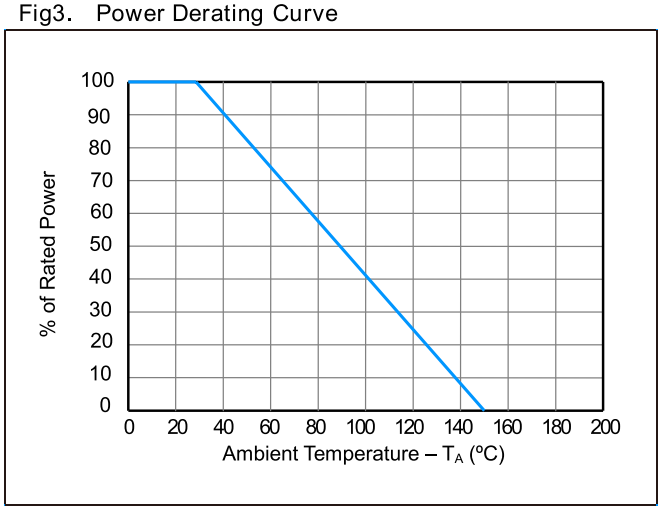
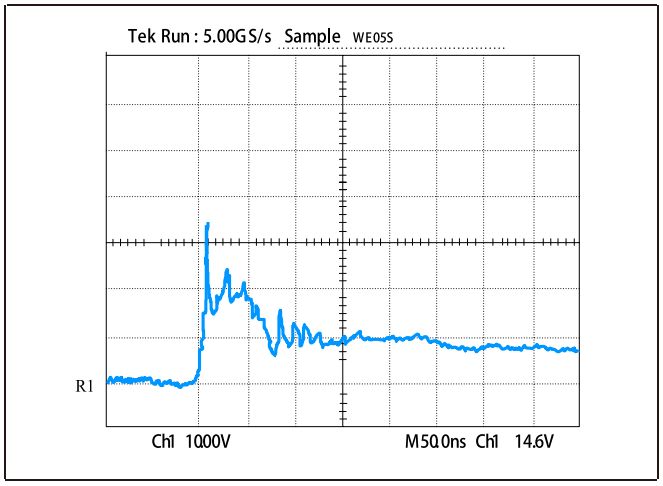
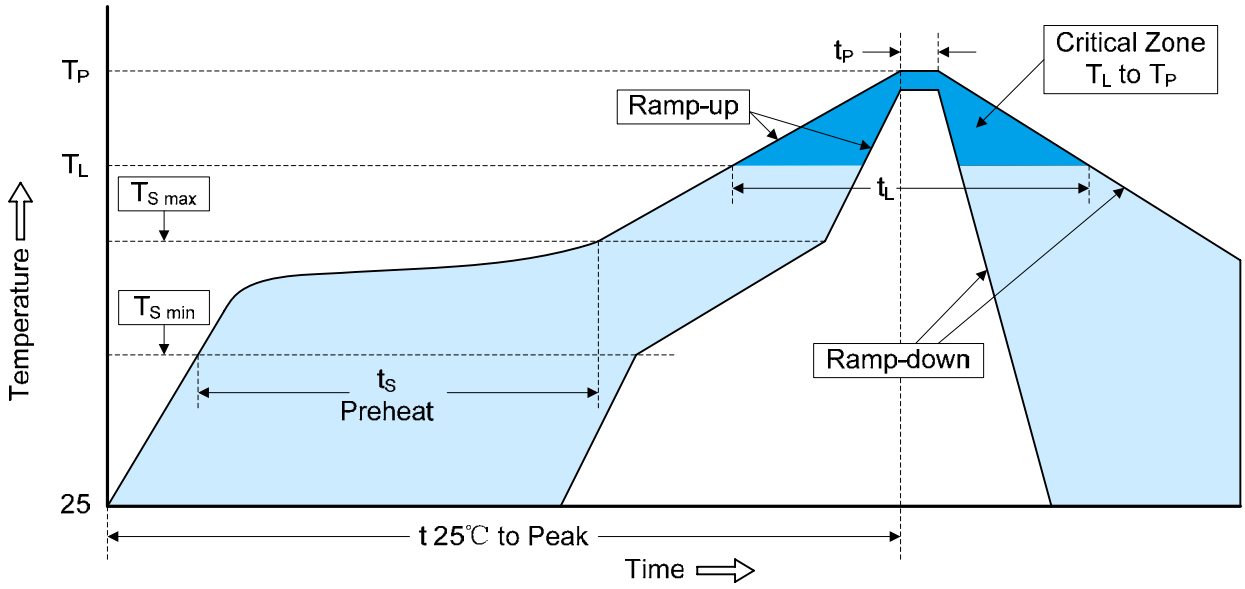


Figure 4: ESD Clamping(8kV Contact per IEC 61000-4-2)



TVS/ESD Arrays - RLST23A712CH Series

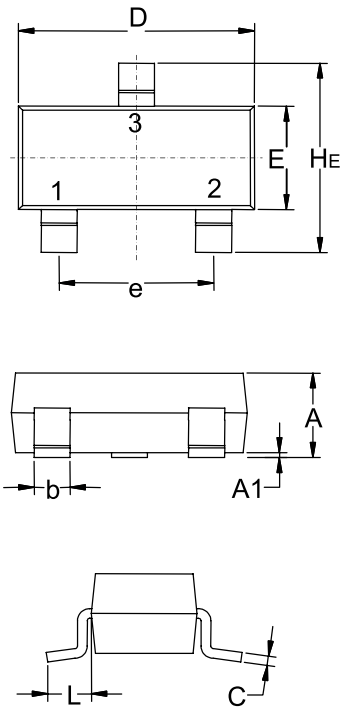
Recommended Soldering Conditions



Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (ts)	 150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

TVS/ESD Arrays - RLST23A712CH Series

Package dimension SOT-23



Dimensions						
DIM	Inches			Millimeters		
	Min	Nom	Max	Min	Nom	Max
A	0.035	0.040	0.044	0.89	1.00	1.12
A1	0.001	0.002	0.004	0.01	0.06	0.10
b	0.015	0.018	0.020	0.37	0.44	0.50
C	0.003	0.005	0.007	0.09	0.13	0.18
D	0.110	0.114	0.120	2.80	2.90	3.04
E	0.047	0.051	0.055	1.20	1.30	1.40
e	0.070	0.075	0.081	1.78	1.90	2.04
L	0.014	0.021	0.029	0.35	0.54	0.69
HE	0.083	0.094	0.104	2.1	2.4	2.64

Part Number Code