SLD Series



HF RoHS

SLD Series





Agency Approvals

AGENCY	AGENCY FILE NUMBER
. PU	E230531

Maximum Ratings and Thermal Characteristics (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation 1. 100µs x 150ms test waveform	P _{PPM}	2200	W
2. 8 x 20µs test waveform	FFIVI	50000	W
Steady State Power Dissipation on inifinite heat sink at T_L =75°C (Fig. 5)	P _{M(AV)}	8.0	W
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V _F	3.5	V
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-65 to 175	°C
Typical Thermal Resistance Junction to Lead	R _{uJL}	8.0	°C/W
Typical Thermal Resistance Junction to Ambient	R _{uJA}	40	°C/W

Description

The SLD Series is packaged in a highly reliable industry standard P600 axial leaded package and is designed to provide percision overvoltage protection for sensitive electronics.

Features

- Halogen-Free
- RoHS compliant
- Typical maximum temperature coefficient $\Delta V_{BR} = 0.1\% \times V_{BR}@25^{\circ}C \times \Delta T$ • High temperature
- Glass passivated chip junction in P600 package
- ISO 7637-2 Level 4 Impulse 5a; 2200W peak pulse capability at 100µs × 150ms waveform, repetition rate (duty cycles): 0.01%
- Fast response time: typically less than 1.0ps from 0 Volts to BV min

- Excellent clamping capability
- Low incremental surge resistance
- soldering guaranteed: 260°C/40 seconds / 0.375",(9.5mm) lead length, 5 lbs., (2.3kg) tension
- Plastic package has Underwriters Laboratory Flammability classification 94V-O
- Matte Tin Lead–free plated

Applications

Designed to protect sensitive electronics from:

- Inductive Load Switching
- Alternator Load Dump

Electrical Characteristics (T_A=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Voltage	down V _{BR} @ I _T /)	Current S	110 4 01 3 0	Leakage @ V _R	Maximum Peak Pulse Current I _{pp} (A)	Maximum Clamping Voltage @ I _{pp} V _c (V)	Agency Approval
(3111)	(5.)	MIN	MAX	(mA)					
SLD10U-017	SLD10-018	11.8	13	5.0	10	10	115	19.0	Х
SLD16U-017	SLD16-018	18.0	22.0	1.0	16	10	76	28.6	Х
SLD24U-017	SLD24-018	25.0	30.0	1.0	24	10	61	36.0	Х

- 1. V_{BB} measured after I_{τ} applied for 300 μ s, I_{τ} = square wave pulse or equivalent.
- 2. Surge current waveform per 100µS x 150mS exponential wave and derated per Fig. 3.
- 3. All terms and symbols are consistent with ANSI/IEEE C62.35.



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

Figure 1 - Peak Pulse Power Rating Curve

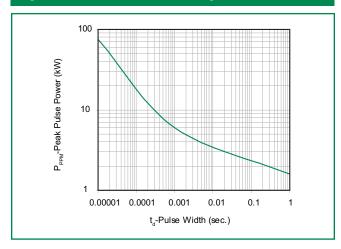


Figure 2 - Pulse Derating Curve

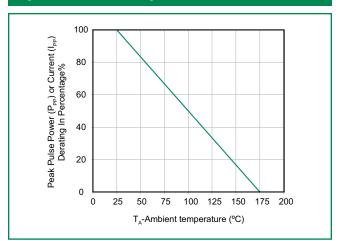


Figure 3 - Pulse Waveform

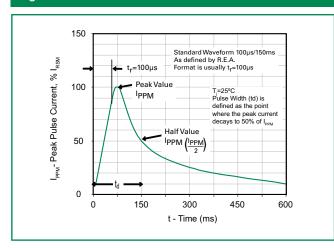


Figure 4 - Typical Junction Capacitance

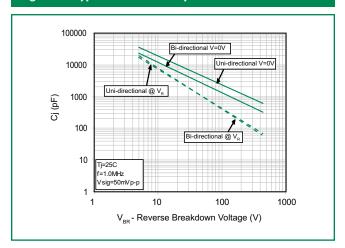


Figure 5 - Steady State Power Derating Curve

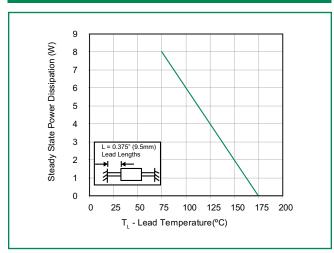
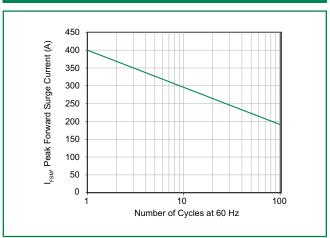


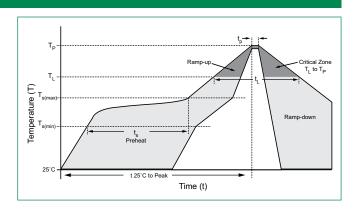
Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current





Soldering Parameters

ndition	Lead-free assembly	
-Temperature Min (T _{s(min)})	150°C	
-Temperature Max (T _{s(max)})	200°C	
-Time (min to max) (t _s)	60 – 180 secs	
amp up rate (Liquidus Temp k	3°C/second max	
- Ramp-up Rate	3°C/second max	
-Temperature (T _L) (Liquidus)	217°C	
-Time (min to max) (t _s)	60 – 150 seconds	
erature (T _P)	260 ^{+0/-5} °C	
in 5°C of actual peak ure (t _p)	20 - 40 seconds	
vn Rate	6°C/second max	
to peakTemperature (T _P)	8 minutes Max.	
ceed	280°C	
	-Temperature Min (T _{s(min)}) -Temperature Max (T _{s(max)}) -Time (min to max) (t _s) -Time (min to max) (t _s) -Ramp-up Rate -Temperature (T _L) (Liquidus) -Time (min to max) (t _s) -rime (min to max) (t _s) -rime (T _p)	



Flow/Wave Soldering (Solder Dipping)

Peak Temperature :	265°C	
Dipping Time :	10 seconds	
Soldering :	1 time	

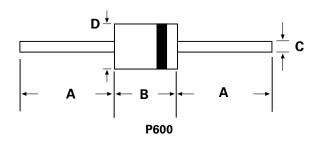
Physical Specifications

Weight	0.07oz., 2.1g			
Case	P600 molded plastic body over passivated junction.			
Polarity	Color band denotes the cathode except Bipolar.			
Terminal	Matte Tin axial leads, solderable per JESD22-B102D.			

Environmental Specifications

Temperature Cycle	JESD22-A104
Pressure Cooker	JESD 22-A102
High Temp. Storage	JESD22-A103
HTRB	JESD22-A108
Thermal Shock	JESD22-A106

Dimensions

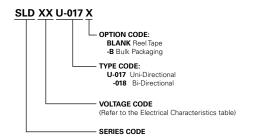


Dimensions	Inc	hes	Millimeters		
Dimensions	Min	Max	Min	Max	
Α	1.000	-	25.40	-	
В	0.340	0.360	8.60	9.10	
С	0.048	0.052	1.22	1.32	
D	0.340	0.360	8.60	9.10	

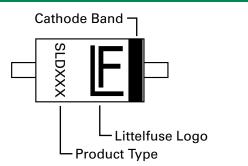
Transient Voltage Suppression DiodesAxial Leaded – 2200W > SLD series



Part Numbering System



Part Marking System



Packaging

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
SLDxxXXX	P600	800	Tape & Reel	EIA STD RS-296E
SLDxxXX-B	P600	500	вох	Littelfuse Concord Packing Spec. DM-0016