



■ Performance Specification Electrical Characteristics

Model	V _{max} (Vdc)	I _{max} (A)	I _{hold} @25°C (A)	I _{trip} @25°C (A)	P _d Typ. (W)	Maximum Time To Trip		Resistance	
						Current (A)	Time (Sec)	R _{i_min} (Ω)	R _{1_max} (Ω)
SMD030LF	60	10	0.30	0.60	1.7	1.5	3.00	0.900	4.800
SMD050LF	60	10	0.50	1.00	1.7	2.5	4.00	0.350	1.400
SMD075LF	30	40	0.75	1.50	1.7	8.0	0.30	0.230	1.000
SMD075LF-60V	60	10	0.75	1.50	1.7	8.0	0.30	0.230	1.000
SMD0100LF	30	40	1.10	2.20	1.7	8.0	0.50	0.120	0.480
SMD100LF-33V	33	40	1.10	2.20	1.7	8.0	0.50	0.120	0.410
SMD125LF	15	40	1.25	2.50	1.7	8.0	2.00	0.070	0.250
SMD150LF	15	40	1.50	3.00	1.9	8.0	5.00	0.060	0.250
SMD150LF-33V	33	40	1.50	3.00	1.9	8.0	5.00	0.060	0.250
SMD0185LF	16	40	1.85	3.60	1.9	8.0	5.00	0.040	0.150
SMD0185LF-33V	33	40	1.85	3.60	1.9	8.0	5.00	0.040	0.150
SMD200LF	15	40	2.00	4.00	1.9	8.0	12.00	0.045	0.125
SMD250LF	15	40	2.50	5.00	1.9	8.0	25.00	0.024	0.085
SMD260LF	6	40	2.60	5.20	1.9	8.0	20.00	0.025	0.075
SMD300LF	6	40	3.00	6.00	1.9	8.0	35.00	0.015	0.048

Definition of the terms

I_{hold} = Hold Current. Maximum current device will not trip in 25°C still air.

I_{trip} = Trip Current. Minimum current at which the device will always trip in 25°C still air.

V_{max} = Maximum operating voltage device can withstand without damage at rated current (I_{max}).

I_{max} = Maximum fault current device can withstand without damage at rated voltage (V_{max}).

P_d = Power dissipation when device is in the tripped state in 25°C still air environment at rated voltage.

R_{i_min}/max = Minimum/Maximum device resistance prior to tripping at 25°C.

R_{1_max} = Maximum device resistance is measured one hour post reflow.

CAUTION : Operation beyond the specified ratings may result in damage and possible arcing and flame.

Environmental Specifications

Test	Conditions
Passive aging	+85°C, 1000 hrs.
Humidity aging	+85°C, 85% R.H. , 168 hours
Thermal shock	125°C, -40°C 10 times
Solvent Resistance	MIL-STD-202, Method 215
Vibration	MIL-STD-202, Method 201
Operation Temperature	- 40 °C to +125 °C
Moisture Resistance Level	Level 2a, J-STD-020
Storage Conditions	40°C max, 70% RH max; devices should remain in original sealed bags prior to use.
Terminal Pad Material	100% Matte Tin with Nickel Underplate
Soldering Characteristics	Solderability per ANSI-J-STD-002 Category 3
Solder Heat Withstand	per IEC-STD 68-2-20, Test Tb, Section 5, Method 1a
Flammability Resistance	per IEC 695-2-2 Needle Flame Test for 20 seconds
In case of special use, please contact our engineer	

SMDLF Series

Surface Mount Series



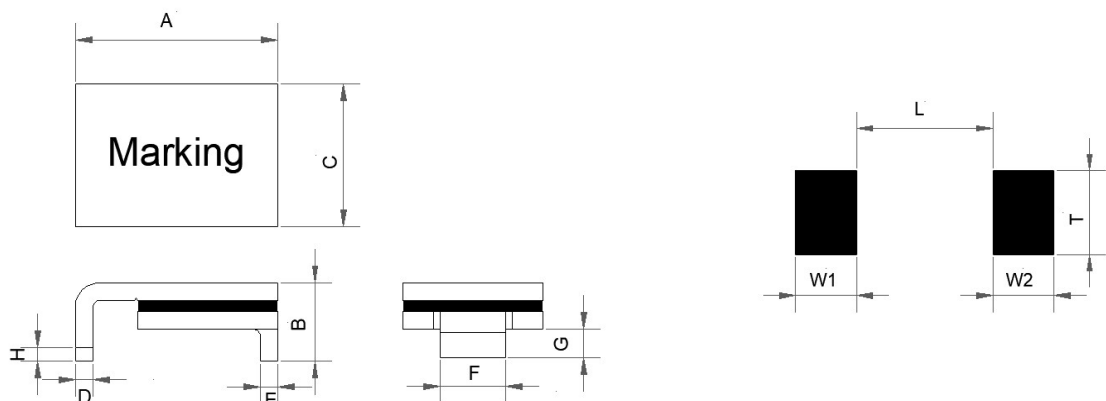
SMDLF Series

Alpha-Top (Sea & Land Alliance)

Construction And Dimension (Unit:mm)

Model	A		B		C		D		E	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
SMD030LF	6.73	7.98	-	3.18	4.80	5.44	0.56	0.71	0.56	0.71
SMD050LF	6.73	7.98	-	3.18	4.80	5.44	0.56	0.71	0.56	0.71
SMD075LF	6.73	7.98	-	3.18	4.80	5.44	0.56	0.71	0.56	0.71
SMD075LF-60V	6.73	7.98	-	3.18	4.80	5.44	0.56	0.71	0.56	0.71
SMD0100LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD100LF-33V	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD125LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD150LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD150LF-33V	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD0185LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD0185LF-33V	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD200LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD250LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD260LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71
SMD300LF	6.73	7.98	-	3.00	4.80	5.44	0.56	0.71	0.56	0.71

Model	F		G		H		Recommended Pad Layout Figures			
	Min.	Max.	Min.	Max.	Min.	Max.	L	W1	W2	T
SMD030LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD050LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD075LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD075LF-60V	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD0100LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD100LF-33V	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD125LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD150LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD150LF-33V	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD0185LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD0185LF-33V	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD200LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD250LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD260LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10
SMD300LF	2.16	2.14	0.66	1.37	0.43	-	5.10	2.30	2.30	3.10



SMDLF Series

Surface Mount Series



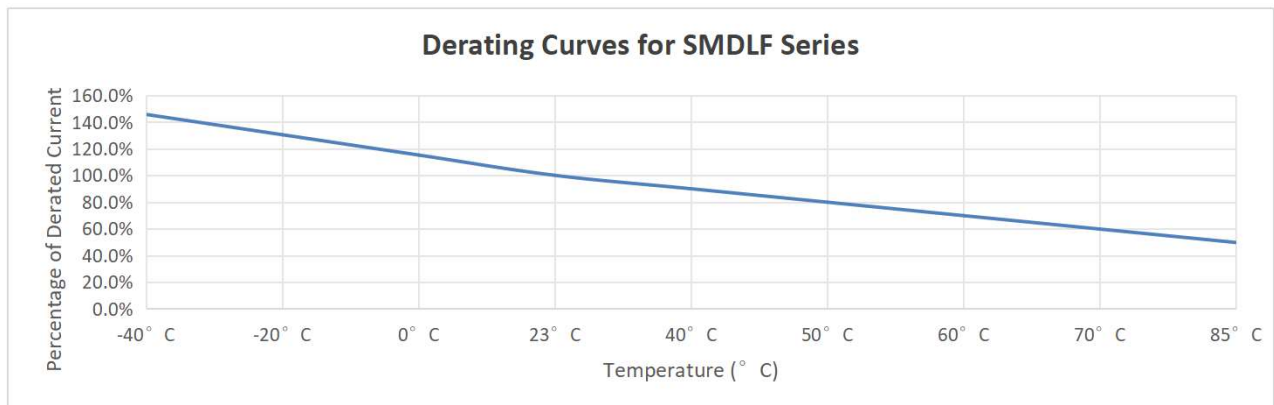
SMDLF Series

Alpha-Top (Sea & Land Alliance)

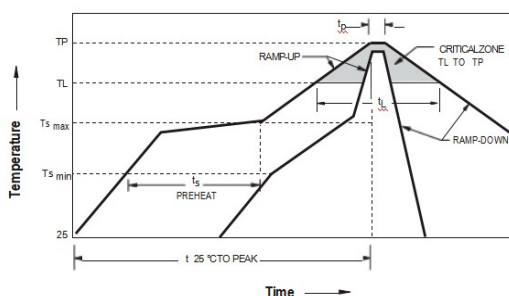
- Thermal Derating--Hold current (A) at Ambient Temperature ($^{\circ}\text{C}$) (for reference only)

Model	Maximum ambient operating temperature (T_{mao}) vs. hold current (I_{hold})								
	-40°C	-20°C	0°C	23°C	40°C	50°C	60°C	70°C	85°C
SMD030LF	0.440	0.390	0.320	0.300	0.260	0.230	0.190	0.180	0.150
SMD050LF	0.730	0.650	0.550	0.500	0.430	0.390	0.330	0.310	0.260
SMD075LF	1.110	0.990	0.840	0.750	0.630	0.570	0.490	0.450	0.360
SMD0100LF	1.480	1.350	1.200	1.100	0.980	0.910	0.830	0.790	0.690
SMD125LF	1.890	1.680	1.500	1.250	1.040	0.930	0.850	0.710	0.550
SMD150LF	2.270	2.010	1.760	1.500	1.250	1.120	0.990	0.860	0.670
SMD0185LF	2.720	2.410	2.110	1.850	1.500	1.340	1.190	1.030	0.840
SMD200LF	2.900	2.600	2.300	2.000	1.700	1.550	1.400	1.250	1.030
SMD250LF	3.650	3.250	2.800	2.500	2.020	1.820	1.600	1.410	1.110
SMD260LF	3.800	3.380	2.910	2.600	2.100	1.890	1.660	1.470	1.150
SMD300LF	4.200	3.800	3.300	3.000	2.630	2.430	2.250	2.000	1.780

- Thermal Derating Curve



- Recommended Solder Reflow Conditions



- SH**** models are intended for reflow soldering (including, but not limited to heating plate, hot air, IR, nitrogen, and vapor phase).
- Wave soldering is permissible only if the device is on the top of the PCB, opposite the heat source.
- Hand soldering is not recommended for these devices.
- All temperatures refer to the topside of the device, measured on the device body surface.
- If reflow temperatures exceed the recommended profile, devices may not meet the published specifications.
- Compatible with Pb and Pb-free solder reflow profiles.
- Excess solder may cause a short circuit.

Profile Feature		Pb-Free Assembly
Average ramp up rate ($T_{\text{S}_{\text{MAX}}}$ to T_{p})		3°C/s max
Preheat	Temperature min ($T_{\text{S}_{\text{MIN}}}$)	150°C
	Temperature max ($T_{\text{S}_{\text{MAX}}}$)	200°C
	Time ($T_{\text{S}_{\text{MIN}}}$ to $T_{\text{S}_{\text{MAX}}}$)	60~120 s
Time maintained above	Temperature (T_{L})	217°C
	Time (T_{L})	60~150 s
Peak/Classification temperature (T_{p})		260°C
Time within 5°C of actual peak temperature Time (T_{p})		20~40 s
Ramp down rate		6°C/s max
Time 25°C to peak temperature		8 min max