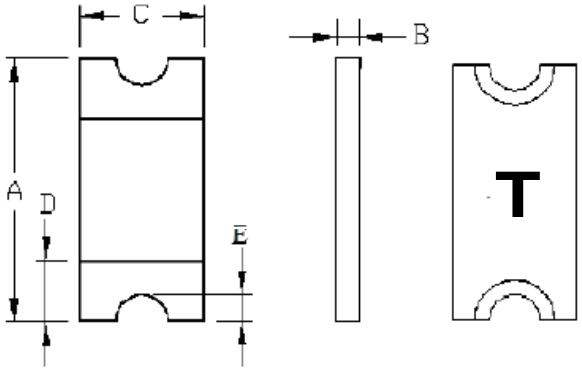
PolySwitch® setP™ Devices

Temperature Indicator

Specification Status: Preliminary

FEATURES:

- Designed for chargers with captive cables
- No IR loss contribution
- Full USB-PD capability
- Compact footprint



Marking: T

PRODUCT DIMENSIONS:

	A		B		C		D		E
	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MAX
mm:	2.00	2.20	0.43	0.60	1.30	2.00	0.43	2.20	0.69
in:	(0.079)	(0.087)	(0.017)	(0.024)	(0.051)	(0.079)	(0.017)	(0.087)	(0.027)

THERMAL PERFORMANCE RATINGS:

TRIP TEMPERATURE		RESISTANCE POST REFLOW	CURRENT LIMITS
Ttrip* @35kΩ		R0**	Ihold
°C		ohms@25°C	mA@55°C
MIN	MAX	MAX	MIN
90	110	12.0	1

* Temperature when device resistance increases to 35kΩ.
**Resistance is measured 1 hour after reflow.

ELECTRICAL PERFORMANCE RATINGS:

I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	P_d typ. (W)	Maximum Time to Trip		Resistance	
					Current (A)	Time (Sec.)	R_{min} (Ω)	R_{max} (Ω)
0.06	0.25	6	1	0.6	0.3	1	0.5	12

ENVIROMENTAL SPECIFICATIONS:

Test Items	Method/Condition
Humidity Aging	60°C, 90% RH, 1000hrs
Passive Aging	-40°C, 1000hrs
Passive Aging	70°C, 1000hrs
Thermal Shock	-40˚C to +85˚C, 10Cycles
Vibration	MIL-STD-883, Method 2007, Condition A

© 2018 Littelfuse, Inc.
Specifications are subject to change without notice.

Agency Recognition:	UL
Reference Document:	PS300
Precedence:	This specification takes precedence over documents referenced herein.
Effectivity:	Reference documents shall be the issue in effect on the date of invitation for bid.

MATERIALS INFORMATION

ROHS Compliant — Directive 2002/95/EC Compliant

ELV Compliant — Directive 2000/53/EC Compliant

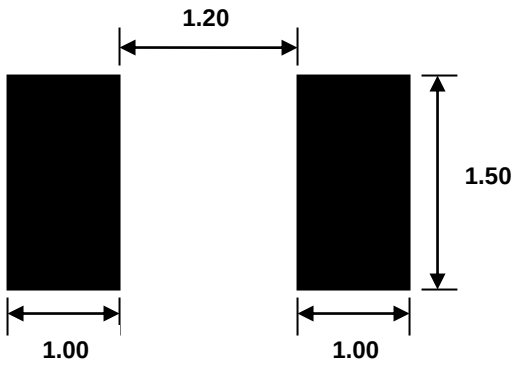
Pb-Free

Halogen Free*

* Halogen Free refers to: Br≤900ppm, Cl≤900ppm, Br+Cl≤1500ppm.

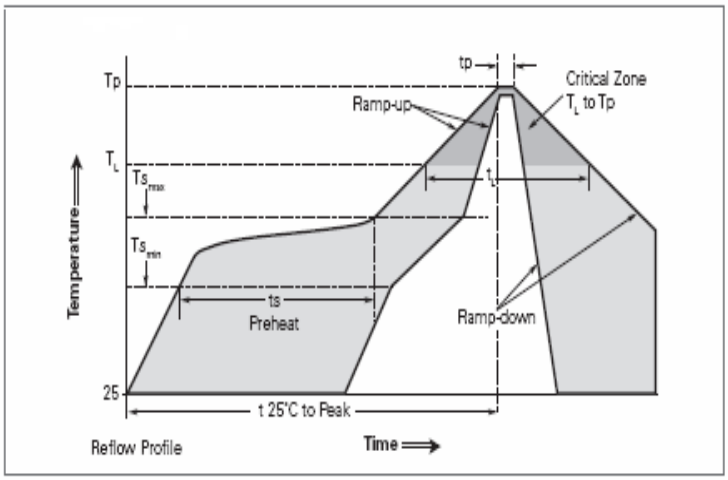
SOLDER REFLOW RECOMMENDATIONS:

Recommended pad layout (mm.)



Recommended reflow profile

Profile Feature	Pb-Free Assembly
Average ramp up rate (Ts_{max} to Tp)	3°C/s max.
Preheat • Temperature min. (Ts_{min}) • Temperature max. (Ts_{max}) • Time (ts_{min} to ts_{max})	 150°C 200°C 60-120s
Time maintained above: • Temperature (T_L) • Time (t_L)	 217°C 60-150s
Peak/Classification temperature (Tp)	260°C
Time within 5°C of actual peak temperature (tp)	30s max.
Ramp down rate	2°C/s max.
Time 25°C to peak temperature	8 mins max.



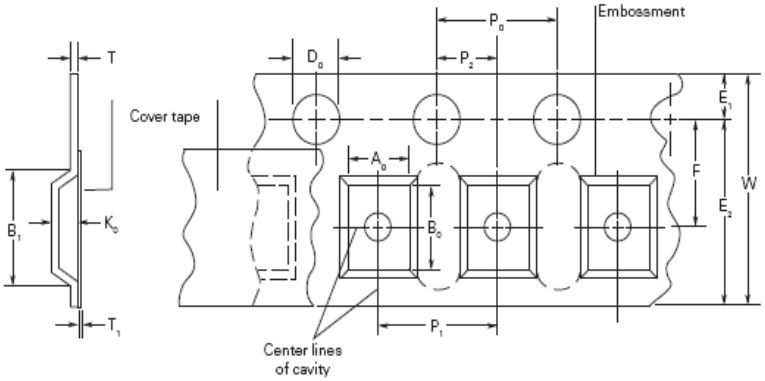
Notes:
- All temperature refers to topside of the package, measured on the package body surface.
- If reflow temperature exceeds the recommended profile, devices may not meet the performance requirements.

© 2018 Littelfuse, Inc.
Specifications are subject to change without notice.

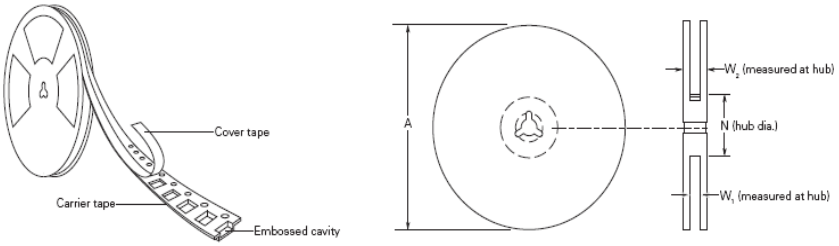
- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment.
- Recommended maximum paste thickness is 0.25mm (0.010 inch).
- Devices can be cleaned using standard industry methods and aqueous solvents.
- Devices can be reworked using the standard industry practices (Avoid contact to the device).

PACKAGING INFORMATION:

Tape specification



Reel dimensions



Description	EIA 481-1 (mm)
W	8.0 ± 0.30
P_0	4.0 ± 0.10
P_1	4.0 ± 0.10
P_2	2.0 ± 0.05
A_0	1.70 ± 0.10
B_0	2.45 ± 0.10
B_1 max.	4.35
D_0	1.55 ± 0.05
F	3.50 ± 0.05

Description	EIA 481-1 (mm)
E_1	1.75 ± 0.10
E_2 min.	6.25
T max.	0.3
T_1 max.	0.1
K_0	0.86 ± 0.10
Amax	179
Nmin	53.5
W1	9.5± 0.5
W2max	15

Standard Pack Quantity: 4,000pcs, **Minimum Order Quantity:** 20,000pcs

© 2018 Littelfuse, Inc.
Specifications are subject to change without notice.

WARNING:

- Electrical performance of the device can differ according to installation conditions. Users should independently evaluate the suitability of the device under the actual application conditions.
- Operation beyond maximum ratings may result in device damage.
- Exposure to silicon-based oils, solvents, electrolytes, acids, or similar materials can adversely affect device performance.
- The device undergoes thermal expansion during fault conditions. It should be provided with adequate space to allow expansion and should be protected against mechanical stress
- Consult with Littelfuse if the device will experience thermal process other than reflow onto PCB board, such as molding or hand soldering.

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and shall not be used for, any purpose (including, without limitation, military, aerospace, medical, life-saving, life-sustaining or nuclear facility applications, devices intended for surgical implant into the body, or any other application in which the failure or lack of desired operation of the product may result in personal injury, death, or property damage) other than those expressly set forth in applicable Littelfuse product documentation. Warranties granted by Littelfuse shall be deemed void for products used for any purpose not expressly set forth in applicable Littelfuse documentation. Littelfuse shall not be liable for any claims or damages arising out of products used in applications not expressly intended by Littelfuse as set forth in applicable Littelfuse documentation. The sale and use of Littelfuse products is subject to Littelfuse Terms and Conditions of Sale, unless otherwise agreed by Littelfuse