

## Features

- Surface Mount Devices
- Standard 1812mils(4832mm)footprint
- Surface mount packaging for automated assembly
- Compatible with Pb and Pb-free solder reflow profiles.
- Agency recognition: UL approved

## Applications

- Overcurrent and overtemperature protection of automotive electronics
- PC motherboards, Hard disk driver, and PC peripherals
- POS Equipment
- USB port protection
- HDMI source protection

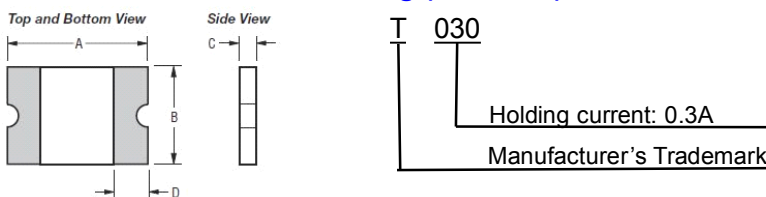


## Electrical Characteristics(25°C)

cUL<sup>us</sup> **RoHS**

P/N	I <sub>H</sub> (A)	I <sub>T</sub> (A)	V <sub>max</sub> (V)	I <sub>max</sub> (A)	Maximum Time to trip		P <sub>dtype</sub> (w)	Resistance(Ω)	
					(A)	(Sec.)		R <sub>min</sub>	R <sub>1max</sub>
TLC-MSMD010	0.10	0.30	60	10	0.5	1.50	0.8	0.70	15.00
TLC-MSMD014	0.14	0.34	60	10	1.5	0.15	0.8	0.40	6.50
TLC-MSMD020	0.20	0.40	30	10	8.0	0.02	0.8	0.75	5.00
TLC-MSMD020/60	0.20	0.40	60	10	1.5	0.15	0.8	0.40	6.00
TLC-MSMD030	0.30	0.60	30	10	8.0	0.10	0.8	0.30	3.00
TLC-MSMD035	0.35	0.70	16	10	8.0	0.10	0.8	0.20	1.80
TLC-MSMD050	0.50	1.00	16	30	8.0	0.15	0.8	0.15	1.00
TLC-MSMD075	0.75	1.50	16	40	8.0	0.20	0.8	0.11	0.45
TLC-MSMD075/24	0.75	1.50	24	40	8.0	0.20	0.8	0.11	0.45
TLC-MSMD075/33	0.75	1.50	33	40	8.0	0.20	0.8	0.11	0.45
TLC-MSMD110	1.10	2.20	6	100	8.0	0.30	0.8	0.04	0.23
TLC-MSMD110/16	1.10	2.20	16	100	8.0	0.50	0.8	0.04	0.23
TLC-MSMD110/24	1.10	2.20	24	100	8.0	0.50	0.8	0.06	0.18
TLC-MSMD125	1.25	2.50	6	40	8.0	0.40	0.8	0.04	0.14
TLC-MSMD150	1.50	3.00	6	100	8.0	0.50	0.8	0.03	0.12
TLC-MSMD150/12	1.50	3.00	12	100	8.0	0.50	1.0	0.03	0.12
TLC-MSMD150/24	1.50	3.00	24	20	8.0	1.50	1.0	0.03	0.14
TLC-MSMD160	1.60	3.20	8	100	8.0	0.50	0.8	0.03	0.12
TLC-MSMD160/12	1.60	3.20	12	100	8.0	1.00	1.0	0.03	0.12
TLC-MSMD160/16	1.60	3.20	16	100	8.0	1.00	1.0	0.03	0.12
TLC-MSMD200	2.00	4.00	16	100	8.0	3.00	0.8	0.02	0.08
TLC-MSMD250/16	2.50	5.00	16	100	8.0	5.00	1.2	0.02	0.10
TLC-MSMD260	2.60	5.20	16	100	8.0	5.00	0.8	0.02	0.08
TLC-MSMD300	3.00	6.00	12	100	8.0	5.00	0.8	0.01	0.06

## Product Dimensions & Marking (Unit: mm)



P/N	Marking	A		B		C		D
		Min.	Max.	Min.	Max.	Min.	Max.	Min.
TLC-MSMD010	T010	4.37	4.73	3.07	3.4	0.80	1.2	0.30
TLC-MSMD014	T014	4.37	4.73	3.07	3.4	0.80	1.2	0.30
TLC-MSMD020	T020	4.37	4.73	3.07	3.4	0.80	1.2	0.30
TLC-MSMD020/60	T020	4.37	4.73	3.07	3.4	0.80	1.2	0.30
TLC-MSMD030	T030	4.37	4.73	3.07	3.4	0.80	1.2	0.30
TLC-MSMD035	T035	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD050	T050	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD075	T075	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD075/24	T075	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD075/33	T075	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD110	T110	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD110/16	T110	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD110/24	T110	4.37	4.73	3.07	3.4	0.90	1.3	0.30
TLC-MSMD125	T125	4.37	4.73	3.07	3.4	0.60	1.0	0.30
TLC-MSMD150	T150	4.37	4.73	3.07	3.4	0.45	0.9	0.30
TLC-MSMD150/12	T150	4.37	4.73	3.07	3.4	0.45	0.9	0.30
TLC-MSMD150/24	T150	4.37	4.73	3.07	3.4	0.90	1.3	0.30
TLC-MSMD160	T160	4.37	4.73	3.07	3.4	0.45	0.9	0.30
TLC-MSMD160/12	T160	4.37	4.73	3.07	3.4	0.45	0.9	0.30
TLC-MSMD160/16	T160	4.37	4.73	3.07	3.4	0.45	0.9	0.30
TLC-MSMD200	T200	4.37	4.73	3.07	3.4	0.70	1.1	0.30
TLC-MSMD250/16	T250	4.37	4.73	3.07	3.4	0.70	1.1	0.30
TLC-MSMD260	T260	4.37	4.73	3.07	3.4	0.70	1.1	0.30
TLC-MSMD300	T300	4.37	4.73	3.07	3.4	0.70	1.1	0.30



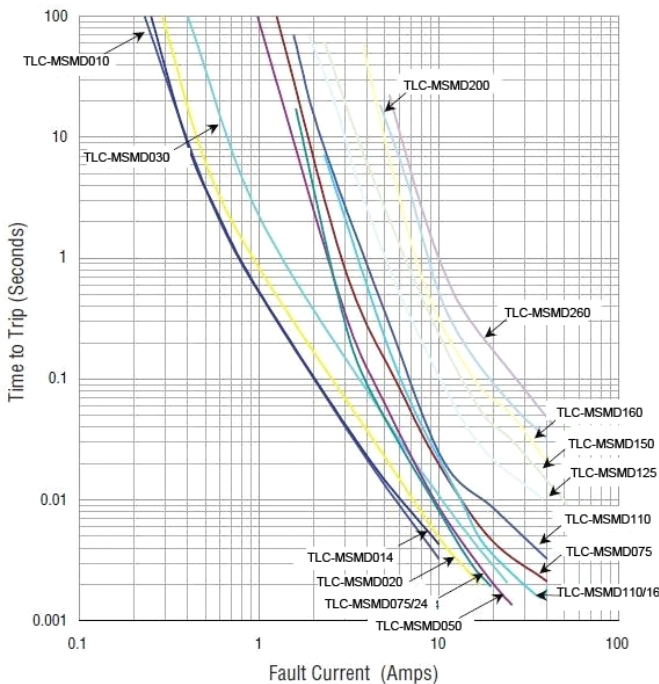
## Thermal Derating Chart - I hold (Amps)

P/N	Ambient Operating Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
TLC-MSMD010	0.16	0.14	0.12	0.1	0.1	0.07	0.1	0.05	0.03
TLC-MSMD014	0.23	0.19	0.17	0.14	0.1	0.10	0.1	0.08	0.06
TLC-MSMD020	0.29	0.26	0.23	0.2	0.2	0.15	0.1	0.12	0.10
TLC-MSMD020/60	0.29	0.26	0.23	0.2	0.2	0.15	0.1	0.12	0.10
TLC-MSMD030	0.44	0.39	0.35	0.3	0.3	0.23	0.2	0.18	0.15
TLC-MSMD035	0.51	0.46	0.41	0.35	0.3	0.27	0.3	0.21	0.18
TLC-MSMD050	0.77	0.68	0.59	0.5	0.4	0.40	0.4	0.33	0.29
TLC-MSMD075	1.15	1.01	0.88	0.75	0.7	0.60	0.6	0.49	0.43
TLC-MSMD075/24	1.15	1.01	0.88	0.75	0.7	0.60	0.6	0.49	0.43
TLC-MSMD075/33	1.15	1.01	0.88	0.75	0.7	0.60	0.6	0.49	0.43
TLC-MSMD110	1.59	1.43	1.26	1.1	1.0	0.87	0.8	0.71	0.60
TLC-MSMD110/16	1.59	1.43	1.26	1.1	1.0	0.87	0.8	0.71	0.60
TLC-MSMD110/24	2.00	1.70	1.4	1.1	1.0	0.88	0.8	0.73	0.61
TLC-MSMD125	1.80	1.63	1.43	1.25	1.1	0.99	0.9	0.81	0.68

TLC-MSMD150	2.17	1.95	1.72	1.5	1.3	1.18	1.1	0.97	0.82
TLC-MSMD150/12	2.17	1.95	1.72	1.5	1.3	1.18	1.1	0.97	0.82
TLC-MSMD150/24	2.17	1.95	1.72	1.5	1.3	1.18	1.1	0.97	0.82
TLC-MSMD160	2.30	2.20	1.9	1.6	1.5	1.30	1.2	1.03	0.91
TLC-MSMD160/12	2.30	2.20	1.9	1.6	1.5	1.30	1.2	1.03	0.91
TLC-MSMD160/16	2.30	2.20	1.9	1.6	1.5	1.30	1.2	1.03	0.91
TLC-MSMD200	3.08	2.71	2.35	2	1.8	1.60	1.5	1.40	1.25
TLC-MSMD250/16	3.85	3.45	3	2.5	2.1	1.85	1.8	1.30	1.10
TLC-MSMD260	4.00	3.52	3.06	2.6	2.3	2.08	2.0	1.39	1.04
TLC-MSMD300	4.40	3.90	3.5	3	2.6	2.30	2.1	1.80	1.50



## Typical time to trip at 25°C



The Time to Trip curves represent typical performance of a device in a simulated application environment. Actual performance in specific customer applications may differ from these values due to the influence of other variables.

## Agency Approvals

- Agency Approvals: UL
- Regulation/Standard: RoHS RoHS 2.0(2011/65/CE)

## Package information

Model	Q'ty/Reel
TLC-MSMD010 ~ TLC-MSMD030, TLC-MSMD 110/24, TLC-MSMD150/24, TLC-MSMD200 ~ TLC-MSMD300	1500pcs
TLC-MSMD050 ~ TLC-MSMD 160	2000pcs

**Note: Reel packaging per EIA-481-1 standard**

