Raychem CIRCUIT PROTECTION
A DIVISION OF **tyco** ELECTRONICS

nanoSMD™ series   Preliminary Data
PolySwitch Resettable Fuses

New nanoSMD series devices reduce the footprint of the broadest product line of surface-mount resettable fuses

Raychem Circuit Protection continues its track record of innovation with the new nanoSMD series. The nano series reduces the size to a 1206 footprint (1206 mils, 3216 mm), nearly half the size of the microSMD series and one-quarter the size of the popular miniSMD series.

Target Applications:
- Computer motherboards
- USB hubs, ports and peripherals
- Digital cameras
- Disk drives
- CD-ROMs
- Game machines
- Battery packs
- Battery chargers
- Printers
- PDAs

Features:
- Resettable overcurrent protection
- Industry smallest footprint in a 3216 (1206 mils) package
- Current ratings from 0.5 A to 1.5 A
- Industry fastest time-to-trip
- Agency recognition (pending)

Benefits:
- Minimize return and maintenance costs
- Smaller size saves board space and cost
- Many product choices give engineers more design flexibility
- Compatible with high volume electronics assembly
- Assists in meeting regulatory requirements
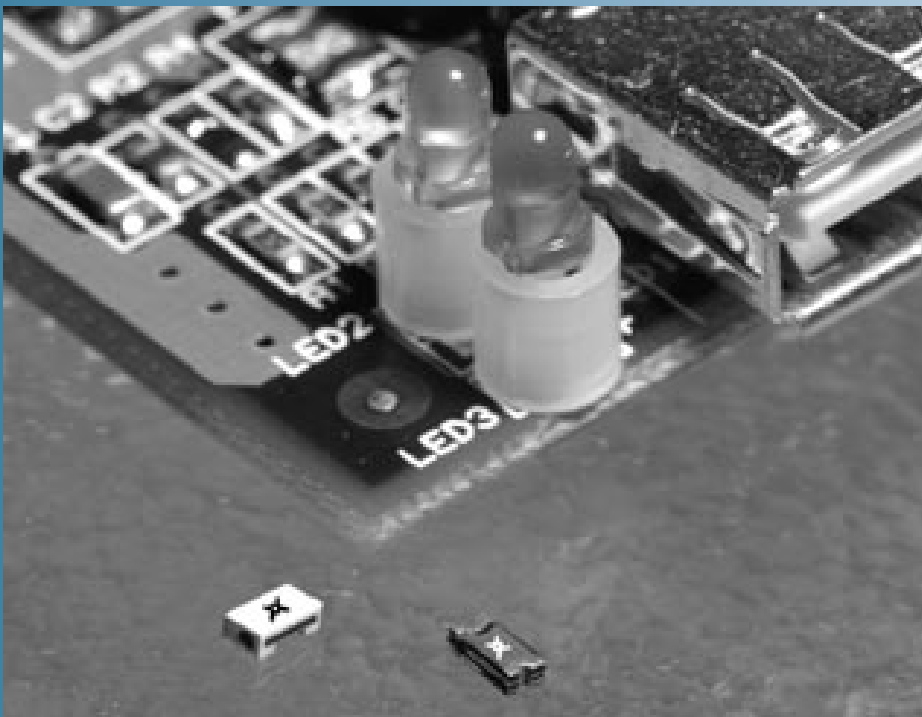
Electrical Characteristics*

Part number	I_H (A)	I_T (A)	V max (Vdc)	I max (A)	Pd_{Typ} (W)	Max. (A)	Time to Trip (S)*	Rmin* Ω	R_{Typ}* Ω	R_1max* Ω
nanoSMDM050	0.50	1.00	6	40	0.6	8.0	0.10	0.15	0.40	0.700
nanoSMDM075	0.75	1.50	6	40	0.6	8.0	0.20	0.10	0.20	0.290
nanoSMDM100	1.00	1.80	6	40	0.6	8.0	3.00	0.06	0.11	0.210
nanoSMDC150	1.50	3.00	6	40	0.8	8.0	1.00	0.04	0.08	0.120

*Preliminary data only - refer to web site for further updates
I_H = Hold current - maximum current device will pass without interruption in 20˚C still air.
I_T = Trip current - minimum current that will switch the device from low resistance to high resistance in 20˚C still air.
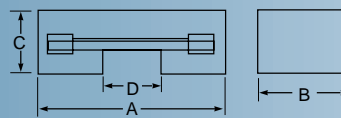V max = Maximum voltage device can withstand without damage at rated current.
I max = Maximum fault current device can withstand without damage at rated voltage.
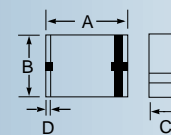Pd = Power dissipated from device when in the tripped state in 20˚C still air.
R1max is measured one-hour post-reflow.

Dimensions (millimeters/inches)

Figure	A max*	B max*	C max*	D min*
nanoSMDM050	3.4	1.8	1.20	
nanoSMDM075	0.134	0.071	0.048	
nanoSMDM100				
nanoSMDC150	3.43	1.8	1.22	0.25
	0.135	0.071	0.064	0.010

*Preliminary data only - refer to web site for further details
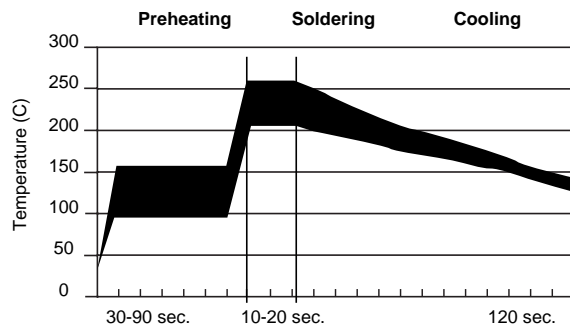
nanoSMDM050/075/100   nanoSMDC150

Typical Time to Trip Characteristics
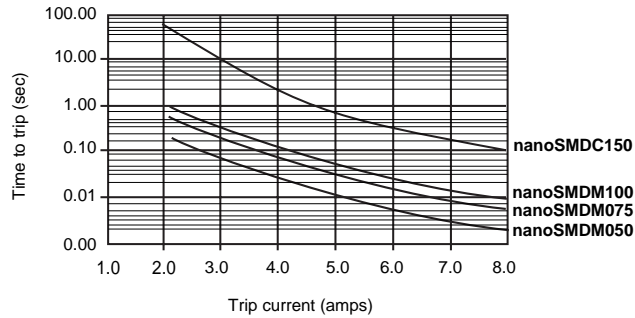
Thermal Derating Curve
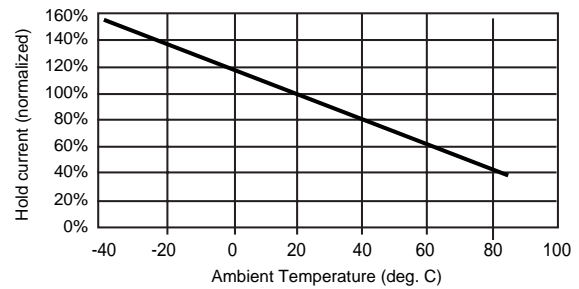
Solder reflow and rework recommendations

Solder Reflow
- Recommended reflow methods: IR, Vapor phase, and hot air oven.
- The nanoSMDM series are not designed to be wave soldered to the bottom side of the board.
- The nanoSMDC150 are also suitable for use with wave solder installation methods.
- Recommended maximum paste thickness is 0.25 mm (10 mils).
- Devices can be cleaned using standard methods and solvents.

Rework
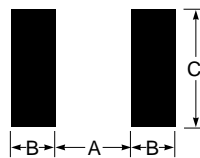- Standard industry practices may be used to rework nanoSMD devices

Caution

If reflow temperatures exceed the recommended profile, devices may not meet the performance specifications.

Recommended Pad Layout

Refer to figure
millimeters (inches)

Part Number	Dimension A (nom)	Dimension B (nom)	Dimension C (nom)
nanoSMDM050	1.80 *(0.071)*	1.00 *(0.039)*	1.80 *(0.071)*
nanoSMDM075	1.80 *(0.071)*	1.00 *(0.039)*	1.80 *(0.071)*
nanoSMDM100	1.80 *(0.071)*	1.00 *(0.039)*	1.80 *(0.071)*
nanoSMDC150	1.80 *(0.071)*	1.00 *(0.039)*	1.80 *(0.071)*

ISO9001
QS-9000
ISO14001

FAX ON DEMAND

U.S. and Canada
(800) 260-9099
All other countries
(650) 361-6523

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