



CHE YEN

ELETRONICS

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承 認 書

SPEXIFIXATION RAPPOV

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承認日期: 2008年0月0日

承認類型大小: ZY-2008-0-0

承認類型: 贴片自恢復保險絲[SMDPTC]{V1}

贴片自恢復保險絲[SMDPTC]

: Nsmc {V1}

NSMDxxx 1206 xA xxV

客戶承認蓋章:

檢驗:

工程:

確認:

承認類別: 贴片自恢復保險絲[SMDPTC]{V1}

產品來源: TAIWAN SEA{V1}

製錶: 豐碩

經辦: 韓家海 R 确认:

Zhiyuan® 智創科技 遠景無限

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东莞市智远电子有限公司

-----元器件專業供應商-----



MODEL NO.: nSMD series

PRODUCT DATA

DATE : 2/6/2007

TABLE OF CONTENTS

1. SCOPE	Page 3
2. ELECTRIC SPECIFICATIONS	Page 3 - 4
2-1. Electric Characteristics	
2-2. Average Time Current Curve	
2-3. Thermal Derating Curve	
3. MECHANICAL SPECIFICATIONS	Page 5
3-1. Physical Dimensions	
3-2. Outline Drawing	
3-3. Plating	
4. ENVIRONMENT	Page 6
4-1. Operating Conditions	
4-2. Environmental Specifications	
4-3. Solder reflow conditions	
5. SAFETY	Page 7
5-1. Agency Approval Status	
6. PACKING SPECIFICATIONS	Page 7
6-1. Reel	
6-2. Labeling Information	



MODEL NO.: nSMD series

PRODUCT DATA

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1. SCOPE

This document defines the electrical, physical, and mechanical properties and environmental control of a PPTC device, nSMD series. They have a hold current from 0.1~1.50 amperes and the maximum operating voltage from 6 to 60 volts and the maximum operating current at 100 amperes.

2. ELECTRIC SPECIFICATION

2-1. Electric Characteristics

Model	Marking	V_{max} (V)	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)	$R_{i_{typ}}$ (Ω)	$R_{1_{max}}$ (Ω)
nSMD010	α N	60.0	100	0.10	0.25	0.4	0.5	1.00	1.600	6.000	15.000
nSMD025	α A	16.0	100	0.25	0.50	0.6	8.0	0.08	0.350	0.480	2.500
nSMD035	α B	15.0	100	0.35	0.75	0.6	8.0	0.10	0.250	0.380	1.300
nSMD050	α F	15.0	100	0.50	1.00	0.6	8.0	0.10	0.150	0.300	0.700
nSMD075	α G	6.0	100	0.75	1.50	0.6	8.0	0.20	0.090	0.160	0.500
nSMD100	α H	6.0	100	1.00	1.80	0.6	8.0	0.30	0.055	0.100	0.270
nSMD150	α I	6.0	100	1.50	3.00	0.8	8.0	1.00	0.040	0.070	0.130

I_{hold} = Hold Current. Maximum current device will sustain for 30min without tripping in 25°C still air.

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

$P_{d_{typ}}$ = Power dissipated from device when in the tripped state at 25°C still air.

$R_{i_{typ}}$ = Typical resistance of device in initial (un-soldered) state.

$R_{1_{max}}$ = Maximum resistance of device at 25°C measured one hour post reflow.

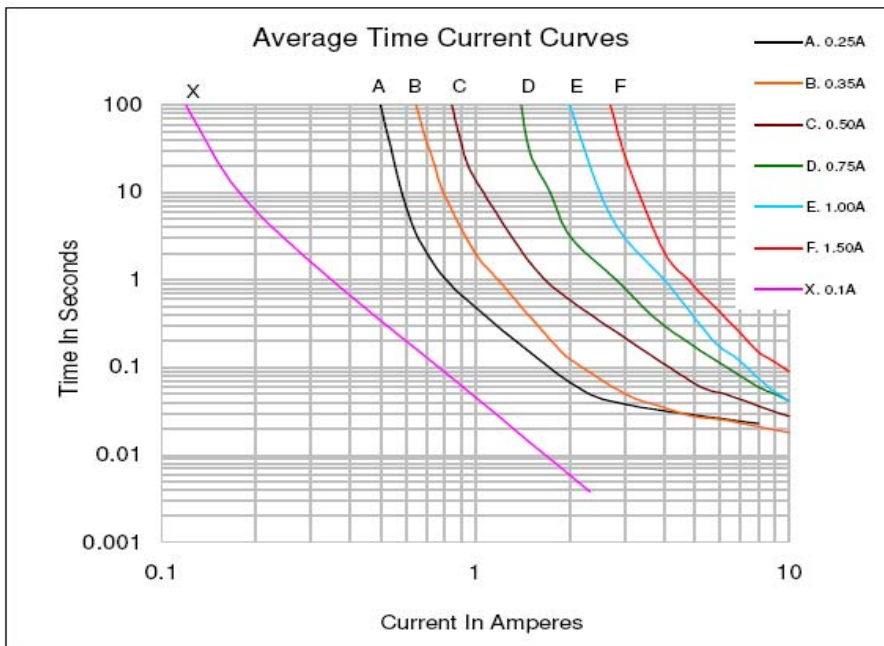


MODEL NO.: nSMD series

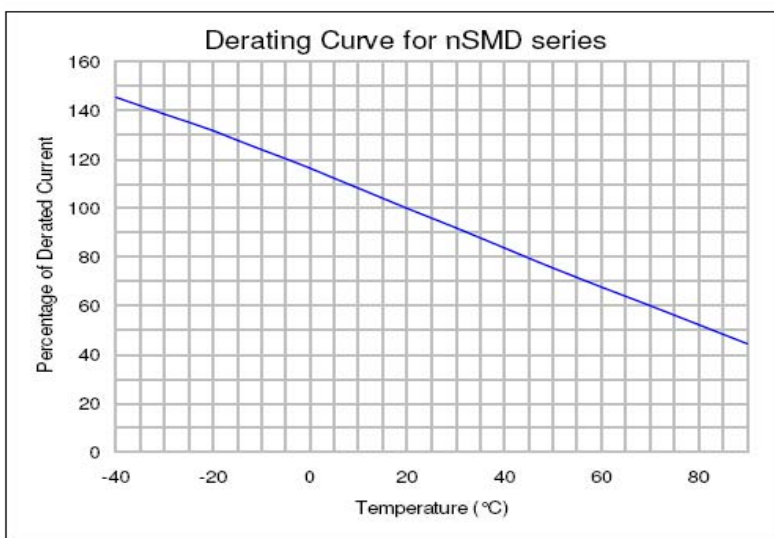
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DATE : 2/6/2007

2-2. Average Time Current Curve



2-3. Thermal Derating Curve



MODEL NO.: nSMD series

PRODUCT DATA

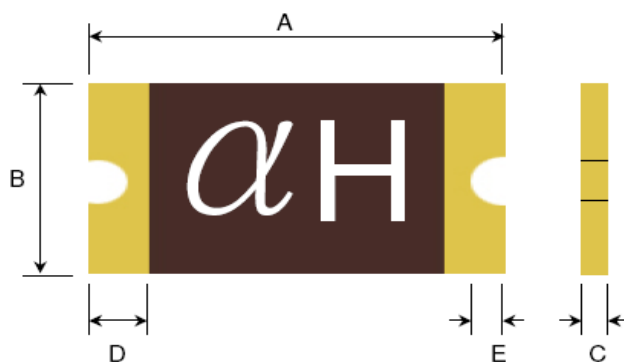
DATE: 2/6/2007

3. MECHANICAL SPECIFICATIONS

3-1. Physical Dimensions (unit: mm)

Model	Marking	A		B		C		D	E
		Min.	Max.	Min.	Max.	Min.	Max.	Min.	Min.
nSMD010	α N	3.00	3.50	1.50	1.80	0.60	1.10	0.15	0.10
nSMD025	α A	3.00	3.50	1.50	1.80	0.27	0.65	0.15	0.10
nSMD035	α B	3.00	3.50	1.50	1.80	0.27	0.65	0.15	0.10
nSMD050	α F	3.00	3.50	1.50	1.80	0.27	0.65	0.15	0.10
nSMD075	α G	3.00	3.50	1.50	1.80	0.27	0.65	0.15	0.10
nSMD100	α H	3.00	3.50	1.50	1.80	0.50	1.25	0.15	0.10
nSMD150	α I	3.00	3.50	1.50	1.80	0.75	1.80	0.15	0.10

3-2. Outline Drawing



3-3. Plating

Lead Free versions are RoHS compliant

Terminal Pad Materials: Tin-Plated Nickle-Copper or Gold-Plated Nickle-Copper



MODEL NO.: nSMD series	PRODUCT DATA	DATE: 2/6/2007
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4. ENVIRONMENT

4-1. Operating Conditions

Operating Temperature : -40°C to 85°C
 Device Surface Temperature : 125°C maximum

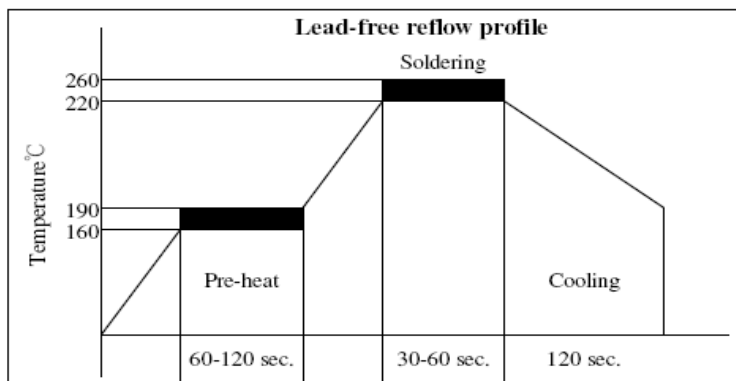
4-2. Environmental Specifications

The device specified follows the UL Standard for Safety for Thermistor-Type Devices, UL1434, April 3, 2000 Edition.

TEST ITEM	EVALUATION	MEASUREMENT
Resistance/Temperature (R/T) Measurement	The measured resistance at various temperatures were recorded for each "as-received" and "after conditioning" sample.	Resistance and Temperature
1000 Hour Thermal Aging	Each sample was conditioned by letting the devices remain in their "tripped" state for 1000 hours.	R/T Curves before and after each test
Heat-Cold-Humidity Cycling	24 hrs at the steady-state temperature, 168 hrs at a relative humidity of 90 - 95% at 40°C. 8 hrs at 0°C.	R/T Curves before and after each test
Overload and Endurance	50 cycles at a 120% maximum current (Imax) and maximum voltage (Vmax). 6,000 cycles at a maximum voltage and current over than a 300% trip current (Itrip).	R/T Curves before and after each test
Cold Operational	1,000 cycles in the Endurance Test, except the samples were operated in a freezer at 0°C.	R/T Curves before and after each test
Thermal Runaway	0 volt to 200% of Vmax at 2-minute intervals. The 200% voltage was maintained for 2 minutes.	No burning, arcing and breakdown

*All samples shall be mounted on PCB before testing.

4-3. Solder reflow conditions





MODEL NO.: mSMD Series

PRODUCT DATA

DATE: 2/6/2007

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N₂ environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.

Notes: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

5. SAFETY

5-1. Agency Approval Status

mSMD075, 110, 150, 200 : UL approved for Imax 40A models, Imax 100A under certification.
File No.: 200700-E201504

mSMD010, 014, 020, 030, 050, 260 : Submitting sample for UL approval

6. PACKING SPECIFICATIONS

6-1. Reel

Quantity

mSMD050 ~ 160 : 2000 pieces/reel

mSMD010, 014, 020, 030, 200, 260 : 1500 pieces/reel

6-2. Labeling Information