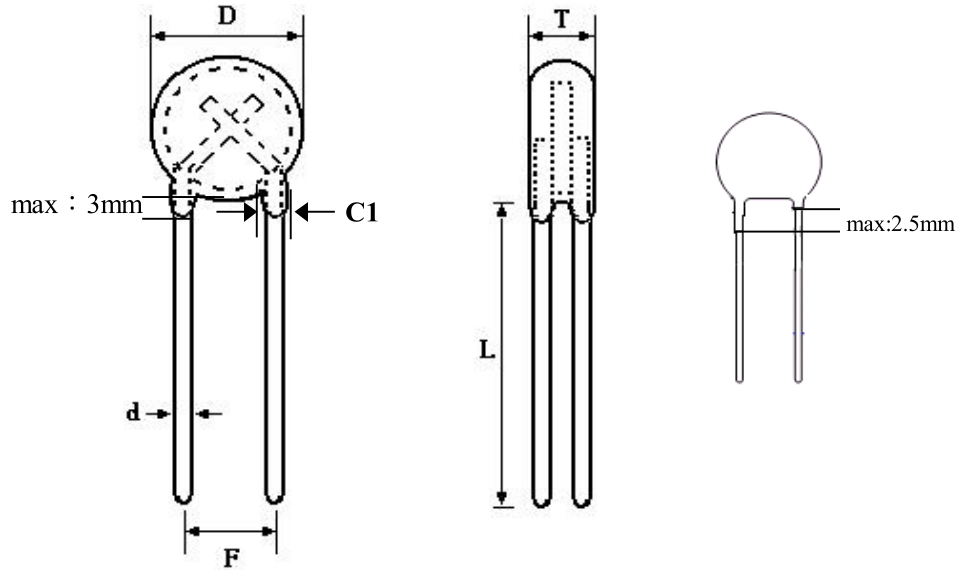
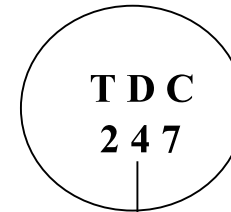


**1. Dimensions**



- D** : Diameter with coating
- F** : Forming Pitch
- T** : Thickness of thermistor with coating
- L** : Length of leads
- d** : Diameter of leads

**2. Marking**




Resistance of 25°C

Example:  $247 : 10^2 * 47 = 4.7K\Omega$

$045 : 10^0 * 45 = 45\Omega$

5Φ	D	F	T	L	d	C1
max.	6.5	4.5	4.0	-	0.52	1.60
$\bar{X}$	-	3.5	-	-	0.50	-
min.	-	2.5	-	25.0	0.48	0.50

UNIT : mm

<b>NTC THERMISTORS</b>	
PART NO :	RN3438
 UPPERMOST ELECTRONIC INDUSTRIES CO., LTD.	

### SPECIFICATION :

#### 1. STYLE : Disc Type Thermistor (Negative Temperature Coefficient)

1-1 Color of Coating : Blue

1-2 Material of Coating : Epoxy Resin

1-3 Material of Lead : ( Cu,Fe,Sn ) Material

#### 2. Maximum Ratings (Ambient Ta = 25°C)

	Item	Symbol	Conditions	Max. Rated Value	Unit
a	Rated Temperature	Ta	in still air	-20 ~ +125	°C
b	Max. Permissible Current	I25	Ta : 25 °C	45	mA
c	Max. Permissible Working Current	Iw25	Ta : 25 °C	4.5	mA

#### 3. Electrical Characteristics

	Item	Symbol	Conditions	Standard Ratings			Unit
				Min.	Normal	Max.	
a	Resistance (25°C)	R25	Ta : 25 ±0.2 °C , I ≤ 0.5mA	4.23	4.7	5.17	KΩ
b	Beta Constant	β	8876*log(R25/R50)	3813	4100	4387	° K
c	Thermal Dissipation Constant	G	Ta : 25 °C	-	6	-	mW/°C
d	Thermal Time Constant	-	Ta : 25 °C	-	22	-	sec
e	UL Test Temperature ( Min. 0°C)						
f	<p style="text-align: center;">Maximum power rating(Pmax.)</p> <p>The customer makes the test according to the actual design demand temperature</p>						

Resistance : Thermistor shall be tested in constant temperature oil bath .

Suggested that every three months enter UEI the website downloading electrical specification related news or contact with the Sales Dept. to demand the new electrical specification related news.

## 4. Terminal Strength

	Test	Conditions	Post Test Limits	Results
a	Bend	Load : 0.25 kg, bend : 2 times.	no physical damage and electrical characteristic normal	OK
b	Pull	Load : 0.50 kg, time : 5 sec.		OK

### Testing Method :

1. Thermistor shall be placed vertically with a load applied to leads and shall consist one bend 90° from the point of egress and back to the original position.
2. Thermistor shall be placed vertically with a load applied to leads for a period of time as specified.

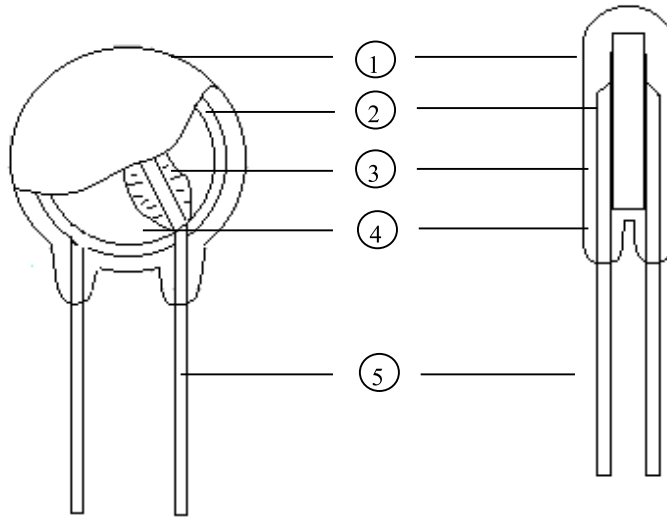
## 5. Reliability Test

	Item	Conditions	Results
			Variable Rate of Resistance
a	High Temperature Storage	125°C ± 5 °C * 1000 Hours	Max.+15%
b	Low Temperature Storage	-20°C ± 2 °C * 1000 Hours	Max.+15%
c	Thermal Shock	-20°C *30' → +25°C *30' → +125°C *30' → + 25°C *30' *8 Cycles	Max.+15%
d	Humidity	45°C, 95% R.H.*1000 Hours	Max.+15%
e	Continuous Load Life	45 mA±10% * 1000 Hours of max. rate Current	Max.+15%

\* Note : Each test shall be performed with new sample individually.

Different sample shall be used for each of the above tests.

**6. Construction Diagram**



No.	Component	Material
1	Coating	Powder Epoxy
2	NTC Thermistor	Mn,Ni,Cu,Fe,Oxide
3	Solder	Sn-Ag
4	Electrode	Ag
5	Lead Wire	( Cu,Fe,Sn ) Material

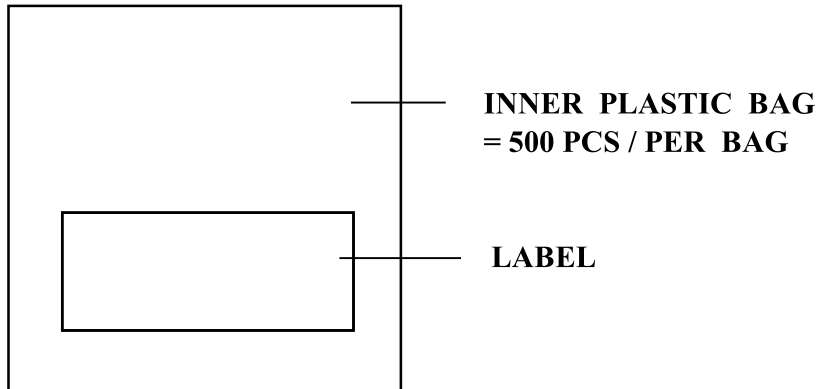
Powder Epoxy	Flame Class	94V-0
	UL File No.	E50219(S)

**7. PACKING METHOD**

**1.MATERIAL OF PACKING**

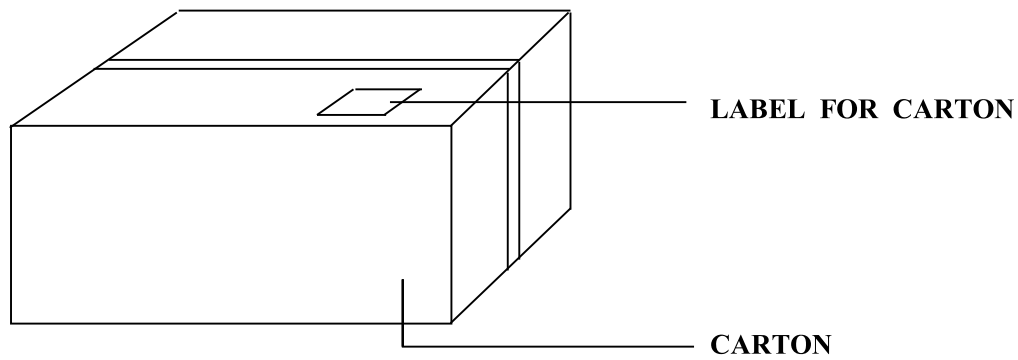
ITEM	MATERIAL	SIZE (L*W*H) mm
INNER PLASTIC BAG	POLYESTER	200 * 130 * 0.08
CARTON	CARTON PAPER	310 * 255 * 240

**2.PACKING DETAIL**



**3.PACKING METHOD**

**500 PCS / BAG \* 40 BAG / CARTON = 20000 PCS / CARTON**



## Part Number Code.

Example :

T D C 05 C 247 K - 5  
 (1) (2) (3) (4) (5) (6) (7) (8)

(1) T : ( UEI NTC Thermistor )

(2) D : ( Disc Type )

(3) C : ( Epoxy Coated )

(4) Nominal Diameter :

03 : 3mm

05 : 5mm

(5) Beta Value

	S	≤ 1600
1600 <	A	≤ 3300
3300 <	B	≤ 3600
3600 <	C	≤ 4200
4200 <	D	

(6) Resistance of 25°C

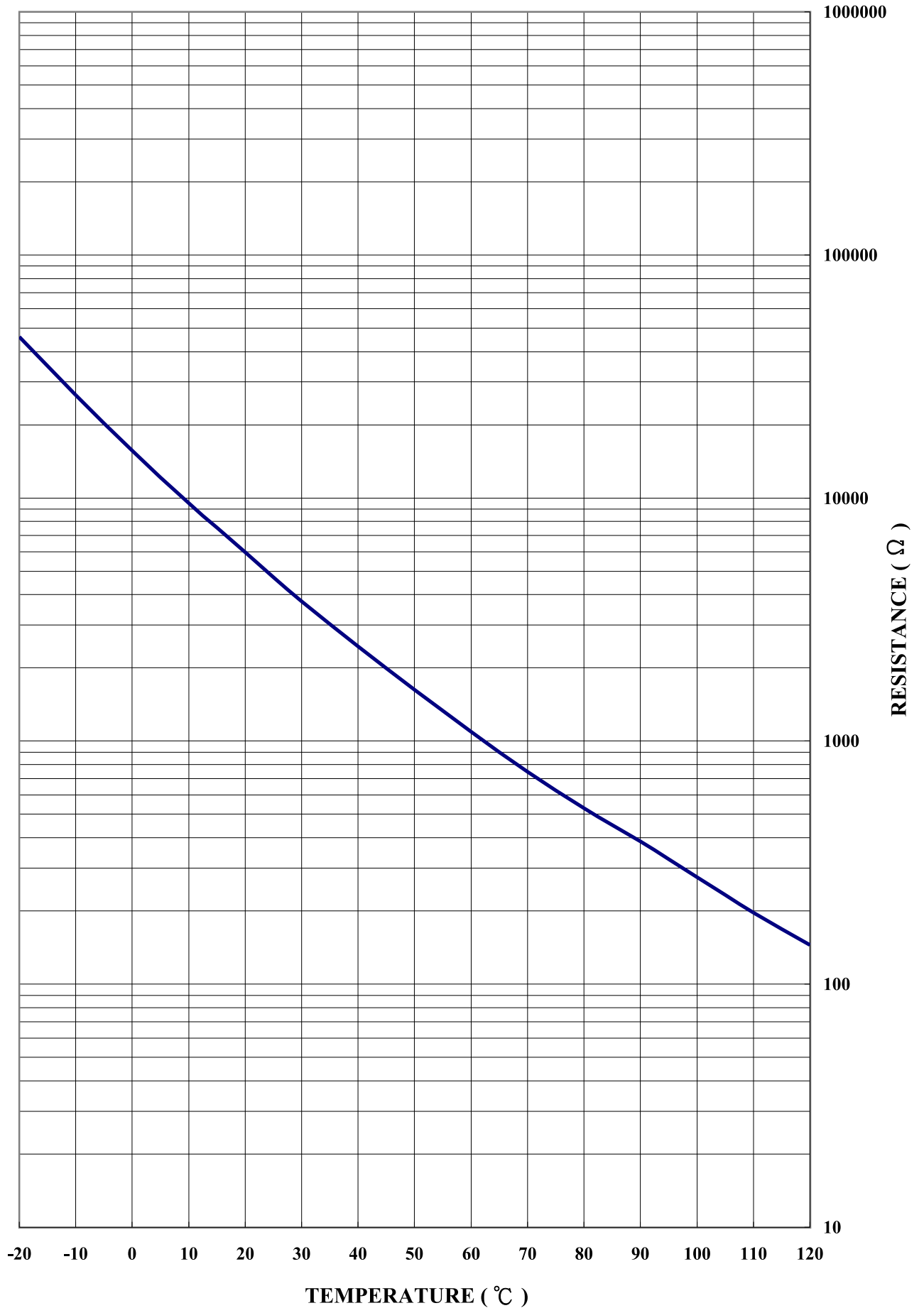
010~090	:	10~90 Ω
110~190	:	100~900 Ω
210~260	:	1K~6K Ω
310~350	:	10K~50K Ω
410~447	:	100K~470K Ω

(7) Tolerance of Resistance

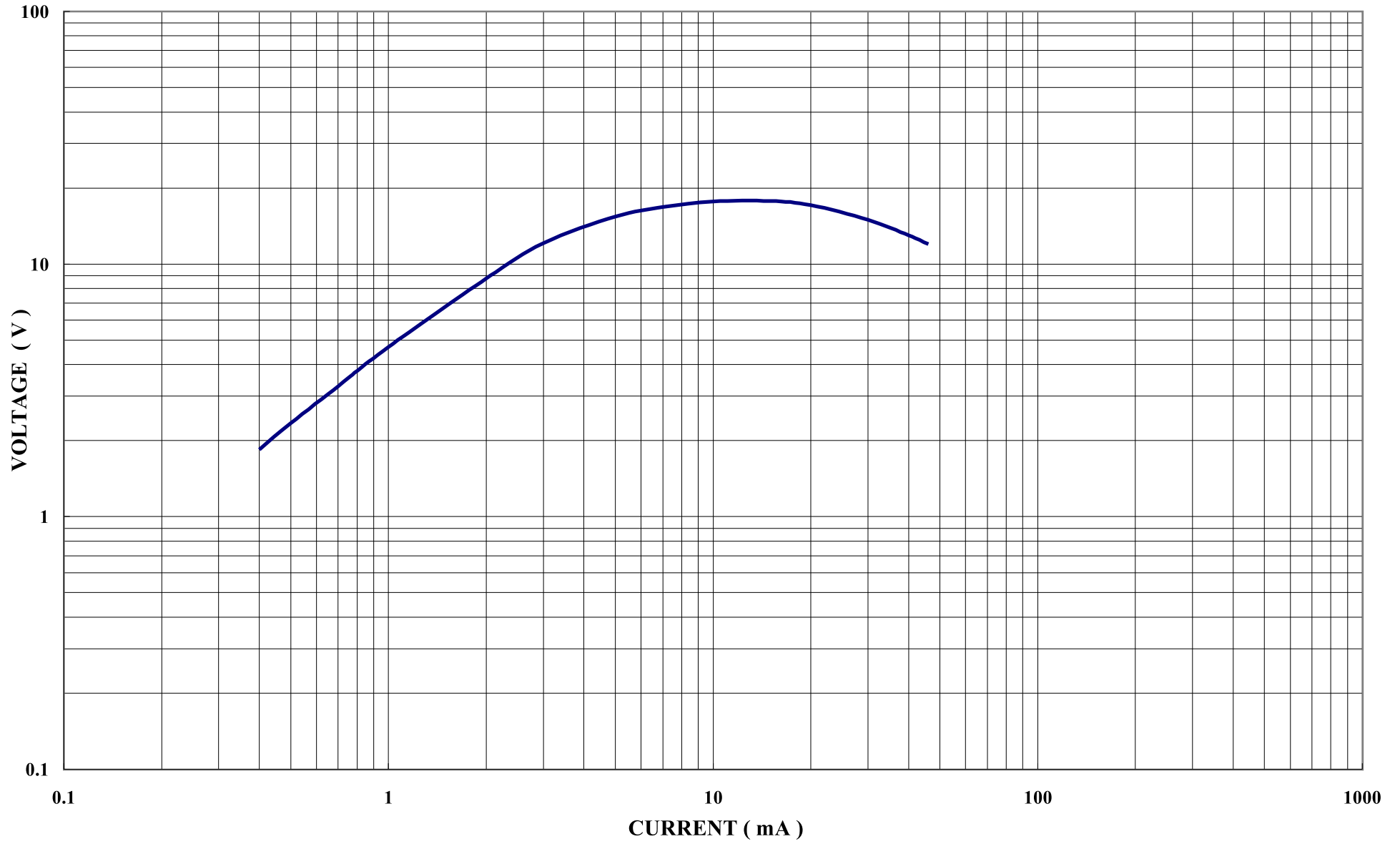
J	:	± 5%
K	:	± 10%
L	:	± 15%

(8) RoHS Type

**R-T Curve ( Nominal ) Part No : RN3438**

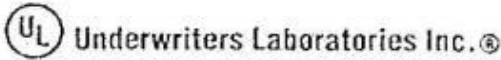


V-I Curve ( Nominal ) Part No. : RN3438





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UPPERMOST ELECTRONIC INDUSTRIES CO LTD  
 MR S Y SHIH  
 TA FA INDUSTRIAL DISTRICT  
 28 HUA SHI RD  
 KAOHSIUNG HSIEN TAIWAN



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XGPUZ February 10, 1999  
 Component - Thermistor Type Devices

UPPERMOST ELECTRONIC INDUSTRIES CO LTD E133510  
 TA FA INDUSTRIAL DISTRICT 28 HUA SHI RD, KAOHSIUNG  
 HSIEN TAIWAN

NTC surge protectors, Models 08SP005, 08SP006, 08SP008, 08SP010, 08SP015, N10SP2R5, N10SP003, N10SP004, N10SP005, N10SP006, N10SP007, N10SP008, N10SP010, N10SP012, N10SP016, N10SP020, N10SP025, N10SP050, N10SP080, N10SP120, N13SP005, N13SP008, N13SP010, N13SP016, N15SP1R3, N15SP1R5, N15SP2R5, N15SP003, N15SP004, N15SP005, N15SP006, N15SP007, N15SP008, N15SP010, N15SP012, N15SP015, N15SP016, N15SP020, N15SP025, N15SP040, N15SP047, N15SP080, N15SP120, N20SP0R7, N20SP1R3, N20SP005, N20SP006, N20SP010, N20SP012, N20SP120, where prefix N is optional; Models TDC03A210, TDC03C222, TDC03C268, TDC03C310, TDC03C312, TDC03C315, TDC03C330, TDC03C333, TDC03C347, TDC03C350, TDC03C368, TDC03D410, TDC03D422, TDC05A015, TDC05A045, TDC05A090, TDC05A110, TDC05A120, TDC05A125, TDC05A130, TDC05A135, TDC05C150, TDC05C210, TDC05C215, TDC05C220, TDC05C222, TDC05C225, TDC05C230, TDC05C233, TDC05C235, TDC05C240, TDC05C247, TDC05C250, TDC05C310, TDC05C312, TDC05C315, TDC05C320, TDC05D330, TDC05D347, TDC05D350, TDC05D410, TDC05D415, TDC05D422, TDC05D433, TDC05D440, TDC05D447.

Marking: Company name or trademark and model designation.

See General Information Preceding These Recognitions.

For use only in equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.  
 Report: January 25, 1993.

Replaces E133510 dated August 5, 1996.

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