# **Vatronics Technologies Limited**

#### **NSP POWER TYPE NTC THERMISTORS**

### \* Introduction:

••Vatronics is Suitable for the use in switching power supply, UPS power supply, electric heaters, electronic energy-saving lighting, electronic ballast and electronic devices for power supply circuit protection; and for the use in color video tube, incandescent bulb and other lighting devices for filament protection; it features small size, high power, strong resistance to surge current, quick response, high B value, low residue resistance, long service life, high reliability, high security and wide applications.

## \* Applications:

••Suitable for the use in switching power supply, UPS power supply, electric heaters, electronic energy-saving lighting, electronic ballast and electronic devices for power supply circuit protection; and for the use in color video tube, incandescent bulb and other lighting devices for filament protection.

#### \* Features:

- ••① Small size, high power and strong resistance to surge current;
- •• 2 Quick response;
- ••③ High in B value and low in residual resistance;
- •• Long service life and high reliability;
- •• 5 High security and wide applications.

# **Vatronics Part Number System**

NTC 5D 13

(1) (2) (3)

(1)Product Type: NTC (3)Diameter =13mm

(2)Risistor Value at 25C =5C



		В				F		
	Α			D	_	<b>5</b>	_	H <sup>2</sup>
Code	Chip	Lead		Chip	E <sup>®</sup>	Distance	G <sup>®</sup>	Post-
(Chip	Onip	Wire	C Pitch	Onip	Lead Wire	from Lead	Molding	1 031-
, ,	Diameter			Thickness				Molding
Diameter)	B # A > /	Length		B 4 A X /	Diameter	Wire to	Distance	D:: 1 A41A1
	MAX	MIN		MAX		Chip MAX		Pitch MIN
		IVIIIA				Chip WAX		
20	22	25	7.5±1/10±1	7	1.0	4	28±3.5	4.5
15	16.5	25	7.5±1/10±1	6	1.0	4	24±3.5	4.5
13	14.5	25	7.5±1	6	0.8	4	22±3.0	4.5
13	14.5	25	7.5±1	0	0.6	4	22±3.0	4.5
11	12.5	25	5±1	5	0.8	4	20±2.0	3.0
9	10.5	25	5±1	5	0.6	4	18±2.0	3.0

# Note:

- ① "E" value may be 0.6 for resistors for which the chip's diameter is  $\leq \phi 13$  and the working current is  $\leq 2A$ .
- $\ensuremath{\text{@}}$  "G" column and "H" column stand for bend dimensions of the lead.

# **Specifications List**

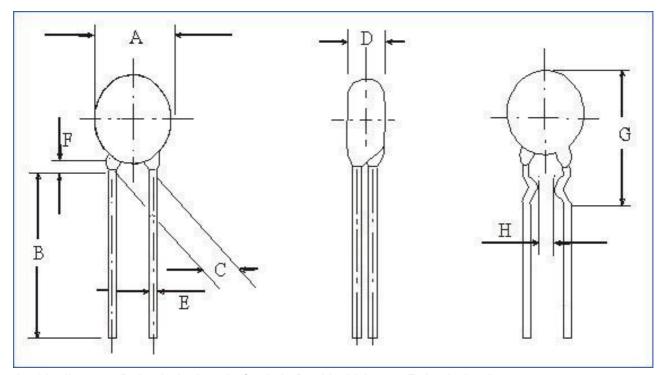
	D 1200/	Mana	Approx. Resistance in	Dissipation	Time	Operating
Model Number	R <sub>25</sub> ±20% (Ω)	Max. Current (A)	Max. Current at 25• (	Power (mW/•)	Constant	Temperature •••
NTC3D-9	3	4	0.12	11	35	
NTC4D-9	4	3	0.19	11	35	
NTC5D-9	5	3	0.21	11	34	
NTC6D-9	6	2	0.315	11	34	
NTC8D-9	8	2	0.4	11	32	
NTC10D-9	10	2	0.458	11	32	
NTC12D-9	12	1	0.652	11	32	
NTC16D-9	16	1	0.802	11	31	
NTC20D-9	20	1	0.864	11	30	
NTC30D-9	30	1	1.022	11	30	
NTC50D-9	50	1	1.252	11	30	
NTC80D-9	80	0.8	2.01	11	30	
NTC2R5D-11	2.5	5	0.095	13	43	

NTC4D-11         4         4         0.15         13         44           NTC5D-11         5         4         0.156         13         45           NTC6D-11         6         3         0.24         13         45           NTC8D-11         8         3         0.255         13.5         47           NTC10D-11         10         3         0.275         14         47           NTC10D-11         12         2         0.426         14         48           NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC80D-11         80         1.2         1.656         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC3D-13         3         6         0.088         13	NTC3D-11	3	5	0.1	13	43
NTC6D-11         6         3         0.24         13         45           NTC8D-11         8         3         0.255         13.5         47           NTC1DD-11         10         3         0.275         14         47           NTC1DD-11         12         2         0.426         14         48           NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R3D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14	NTC4D-11	4	4	0.15	13	44
NTC8D-11         8         3         0.255         13.5         47           NTC10D-11         10         3         0.275         14         47           NTC1D-11         12         2         0.426         14         48           NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC4R3D-13         1.3         7         0.062         13         60           NTC1R3D-13         1.5         7         0.073         13         60           NTC3D-13         3         6         0.088         13         60           NTC4D-13         4         5         0.12         15         67           NTC4D-13         4         5         0.125         15         68           NTC7D-13         7         4         0.188         15	NTC5D-11	5	4	0.156	13	45
NTC10D-11         10         3         0.275         14         47           NTC12D-11         12         2         0.426         14         48           NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC7D-13         7         4         0.188         15	NTC6D-11	6	3	0.24	13	45
NTC12D-11         12         2         0.426         14         48           NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC2R5D-13         3         6         0.092         14         60           NTC3D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC3D-13         8         4         0.194         15	NTC8D-11	8	3	0.255	13.5	47
NTC16D-11         16         2         0.47         14         50           NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R3D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC7D-13         7         4         0.188         15         65           NTC4D-13         8         4         0.194         15         60           NTC1D-13         10         4         0.206         15	NTC10D-11	10	3	0.275	14	47
NTC20D-11         20         2         0.512         15         52           NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC10D-13         10         4         0.206         15         65           NTC15D-13         15         3         0.316         16	NTC12D-11	12	2	0.426	14	48
NTC30D-11         30         1.5         0.667         15         52           NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC10D-13         10         4         0.206         15         65           NTC15D-13         12         3         0.316         16         65           NTC15D-13         16         3         0.338         16	NTC16D-11	16	2	0.47	14	50
NTC50D-11         50         1.5         1.021         15         51           NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16	NTC20D-11	20	2	0.512	15	52
NTC80D-11         80         1.2         1.656         15         51           NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC15D-13         15         3         0.316         16         65           NTC16D-13         16         3         0.335         16         60           NTC20D-13         20         3         0.372         16	NTC30D-11	30	1.5	0.667	15	52
NTC1R3D-13         1.3         7         0.062         13         60           NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16 <t< td=""><td>NTC50D-11</td><td>50</td><td>1.5</td><td>1.021</td><td>15</td><td>51</td></t<>	NTC50D-11	50	1.5	1.021	15	51
NTC1R5D-13         1.5         7         0.073         13         60           NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16 <t< td=""><td>NTC80D-11</td><td>80</td><td>1.2</td><td>1.656</td><td>15</td><td>51</td></t<>	NTC80D-11	80	1.2	1.656	15	51
NTC2R5D-13         2.5         6         0.088         13         60           NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16         65           NTC1R3D-15         1.3         8         0.048         18 <t< td=""><td>NTC1R3D-13</td><td>1.3</td><td>7</td><td>0.062</td><td>13</td><td>60</td></t<>	NTC1R3D-13	1.3	7	0.062	13	60
NTC3D-13         3         6         0.092         14         60           NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16         65           NTC1R3D-15         1.3         8         0.048         18         68	NTC1R5D-13	1.5	7	0.073	13	60
NTC4D-13         4         5         0.12         15         67           NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16         65           NTC1R3D-15         1.3         8         0.048         18         68	NTC2R5D-13	2.5	6	0.088	13	60
NTC5D-13         5         5         0.125         15         68           NTC6D-13         6         4         0.17         15         65           NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16         65           NTC1R3D-15         1.3         8         0.048         18         68	NTC3D-13	3	6	0.092	14	60
NTC6D-13       6       4       0.17       15       65         NTC7D-13       7       4       0.188       15       65         NTC8D-13       8       4       0.194       15       60         NTC10D-13       10       4       0.206       15       65         NTC12D-13       12       3       0.316       16       65         NTC15D-13       15       3       0.335       16       60         NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC4D-13	4	5	0.12	15	67
NTC7D-13         7         4         0.188         15         65           NTC8D-13         8         4         0.194         15         60           NTC10D-13         10         4         0.206         15         65           NTC12D-13         12         3         0.316         16         65           NTC15D-13         15         3         0.335         16         60           NTC16D-13         16         3         0.338         16         60           NTC20D-13         20         3         0.372         16         65           NTC30D-13         30         2.5         0.517         16         65           NTC1R3D-15         1.3         8         0.048         18         68	NTC5D-13	5	5	0.125	15	68
NTC8D-13       8       4       0.194       15       60         NTC10D-13       10       4       0.206       15       65         NTC12D-13       12       3       0.316       16       65         NTC15D-13       15       3       0.335       16       60         NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC6D-13	6	4	0.17	15	65
NTC10D-13       10       4       0.206       15       65         NTC12D-13       12       3       0.316       16       65         NTC15D-13       15       3       0.335       16       60         NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC7D-13	7	4	0.188	15	65
NTC12D-13       12       3       0.316       16       65         NTC15D-13       15       3       0.335       16       60         NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC8D-13	8	4	0.194	15	60
NTC15D-13       15       3       0.335       16       60         NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC10D-13	10	4	0.206	15	65
NTC16D-13       16       3       0.338       16       60         NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC12D-13	12	3	0.316	16	65
NTC20D-13       20       3       0.372       16       65         NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC15D-13	15	3	0.335	16	60
NTC30D-13       30       2.5       0.517       16       65         NTC1R3D-15       1.3       8       0.048       18       68	NTC16D-13	16	3	0.338	16	60
NTC1R3D-15 1.3 8 0.048 18 68	NTC20D-13	20	3	0.372	16	65
	NTC30D-13	30	2.5	0.517	16	65
NTC1R5D-15 1.5 8 0.052 19 69	NTC1R3D-15	1.3	8	0.048	18	68
	NTC1R5D-15	1.5	8	0.052	19	69

-55~+200

NTC2R5D-15	2.5	7	0.07	19	79
NTC3D-15	3	7	0.075	18	76
NTC4D-15	4	6	0.097	20	76
NTC5D-15	5	6	0.112	20	76
NTC6D-15	6	5	0.155	20	80
NTC7D-15	7	5	0.173	20	80
NTC8D-15	8	5	0.178	20	80
NTC10D-15	10	5	0.18	20	75
NTC12D-15	12	4	0.25	20	75
NTC15D-15	15	4	0.268	21	85
NTC16D-15	16	4	0.276	21	70
NTC20D-15	20	4	0.288	17	86
NTC30D-15	30	3.5	0.438	18	75
NTC0R7D-20	0.7	12	0.018	25	89
NTC1R3D-20	1.3	9	0.037	24	88
NTC3D-20	3	8	0.055	24	88
NTC5D-20	5	7	0.087	23	87
NTC6D-20	6	6	0.113	25	103
NTC8D-20	8	6	0.142	25	105
NTC10D-20	10	6	0.162	24	102
NTC12D-20	12	5	0.195	24	100
NTC16D-20	16	5	0.212	25	100

**Note:** Vatronics Power type NTC thermistor comes with optional chip diameter of  $\phi$  7, 8, 9, 10, 11, 13, 15, 18, 20, 22, 25, 30, 35, etc. For required specifications not shown, please do not hesitate to contact us.



A--chip diameter, B--lead wire length, C--pitch, D--chip thickness, E--lead wire diameter,

F--distance from lead wire to chip, G--molding distance, H--post-molding pitch

Vatroncis Technologies Limited

http://www.vatronics.com sales@vatronics.com