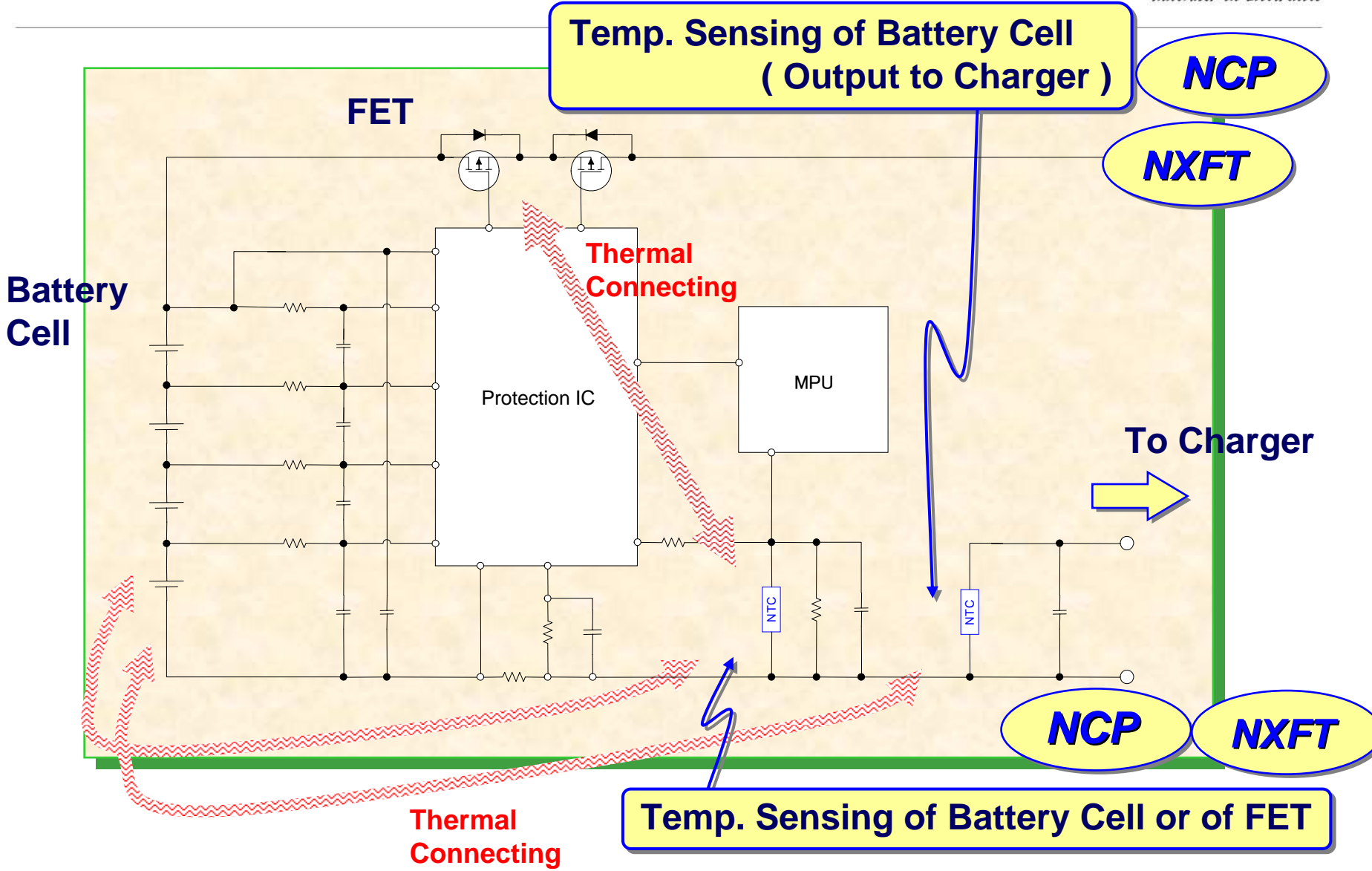
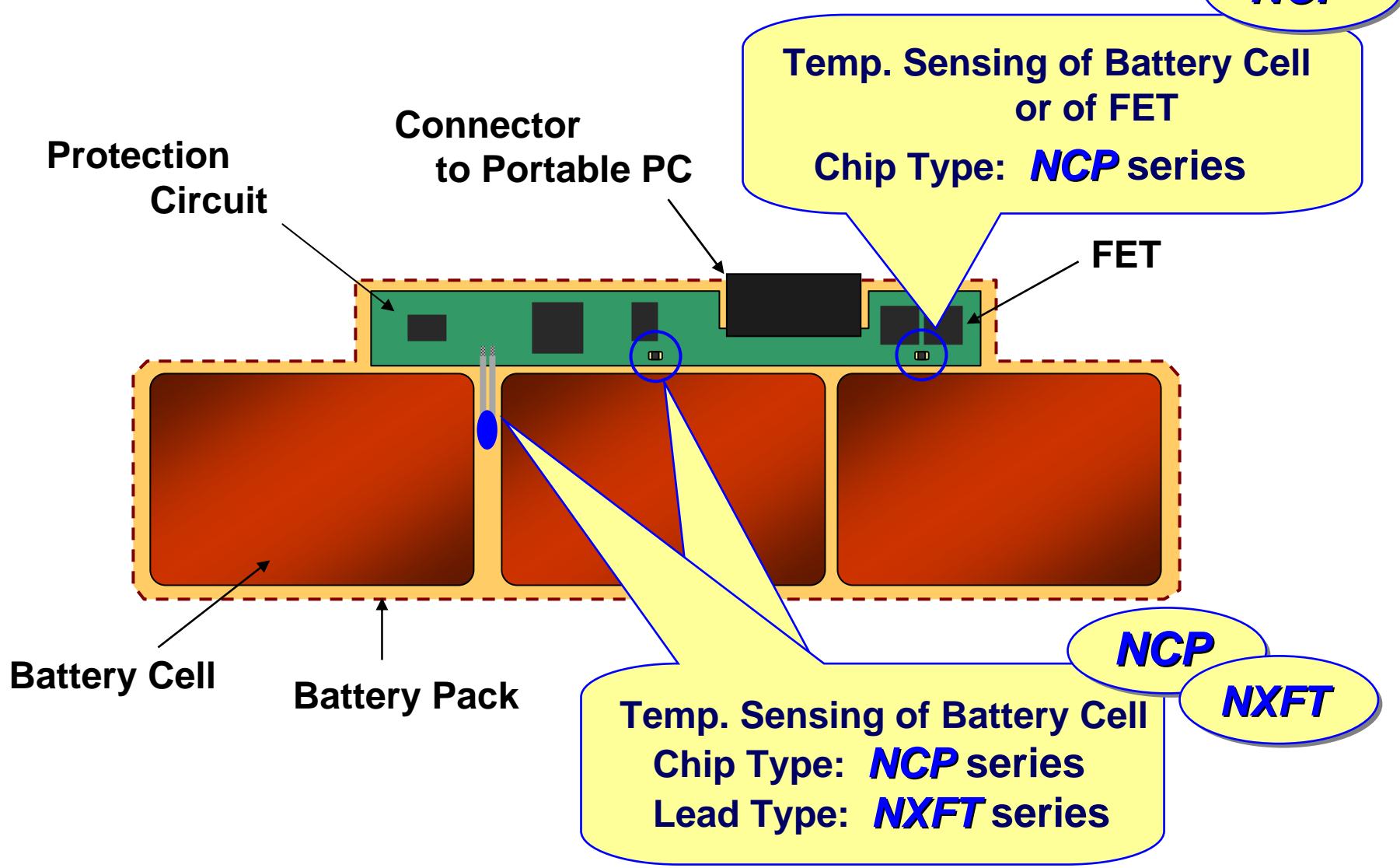


Temperature Sensing



Temp. Sensing in Li-Ion Battery Pack



NCP series for Temperature Sensing



Resistance at 25 deg.C	0201 NCP03		0402 NCP15		0603 NCP18		0805 NCP21
	B-Constant (Code)	B-Constant (Code)	B-Constant (Code)	B-Constant (Code)	B-Constant (Code)	B-Constant (Code)	B-Constant (Code)
11 ohm	2750 K YS	-	-	-	-	-	-
22 ohm	2750 K YS	-	-	3100 K XC	-	-	-
33 ohm	2750 K YS	-	-	3100 K XC	-	-	-
47 ohm	2750 K YS	-	-	3100 K XC	-	-	-
68 ohm	2750 K YS	-	-	3100 K XC	-	-	-
100 ohm	2750 K YS	-	-	3250 K XF	-	-	-
150 ohm	(3100 K XC)	-	-	3250 K XF	-	-	-
220 ohm	(3100 K XC)	-	-	3500 K XM	-	-	3500 K XM
330 ohm	(3100 K XC)	-	-	3500 K XM	-	-	-
470 ohm	(3100 K XC)	-	-	3500 K XM	-	-	-
680 ohm	(3100 K XC)	-	-	3650 K XQ	-	-	3650 K XQ
1.0 kohm	3500 K XM	-	-	3650 K XQ	-	-	-
1.5 kohm	3500 K XM	-	-	3650 K XQ	-	-	3650 K XQ
2.2 kohm	3500 K XM	-	-	3950 K XW	-	-	-
3.3 kohm	3500 K XM	-	-	3950 K XW	-	-	-
4.7 kohm	3500 K XM	-	-	3950 K XW	-	-	3950 K XW
6.8 kohm	3500 K XM	-	-	3950 K XW	-	-	-
10 kohm	3380 K XH	-	-	3950 K XW	-	-	3500 K XM
15 kohm	3380 K XH	-	-	3380 K XH	3900 K XV	3380 K XH	3900 K XV
22 kohm	3380 K XH	-	-	3950 K XW	-	3950 K XW	3950 K XW
33 kohm	4250 K WF	-	-	3950 K XW	4485 K WL	3950 K XW	3950 K XW
47 kohm	4050 K WB	4485 K WL	-	4050 K WB	4485 K WL	4050 K WB	4050 K WB
68 kohm	4250 K WF	4485 K WL	-	4050 K WB	4485 K WL	4050 K WB	4050 K WB
100 kohm	4250 K WF	4485 K WL	-	4150 K WD	4485 K WL	4150 K WD	-
150 kohm	-	4485 K WL	-	4250 K WF	4485 K WL	4250 K WF	4250 K WF
220 kohm	-	4485 K WL	-	4500 K WM	4485 K WL	4500 K WM	-
330 kohm	-	-	-	4500 K WM	-	4500 K WM	-
470 kohm	-	-	-	-	-	-	-
680 kohm	-	-	-	4500 K WM	-	4500 K WM	-
1.0 Mohm	-	-	-	-	-	-	-
Operating Temp.	-40 to +125 deg.C		-40 to +125 deg.C		-40 to +125 deg.C		-40 to +125 deg.C
Dissipation Constant	Approx. 1.0 mW/deg.C		Approx. 1.0 mW/deg.C		Approx. 1.0 mW/deg.C		Approx. 2.0
P/N in End	05RL		03RC		03RB		03RA
Packaging	15 kpcs/reel		10 kpcs/reel		4 kpcs/reel		4 kpcs/reel
Certified UL1434	-		-		Done		Done



New Leaded Thermistor *Thermo-String*

Thermo-String is useful for temperature sensing at different location from PCB

Ultra Small Head
Less than 1.6mm

New HF “NXFT” series

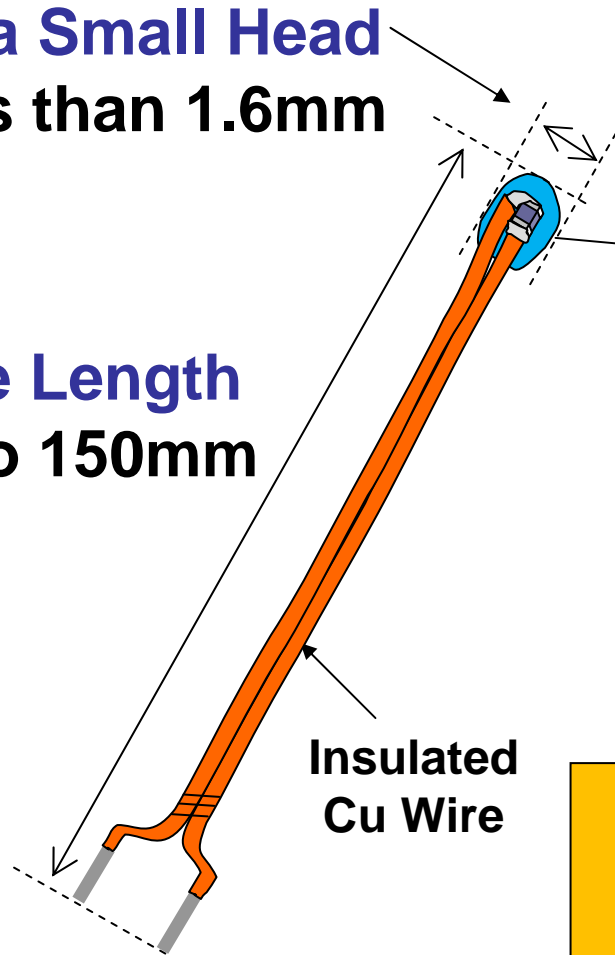
Flexible Length
25mm to 150mm

Flexible Characteristics

World’s Most Major Chip Thermistor
Murata “NCP series” Inside



Able to choose **33 characteristics**
from **22 ohm to 470k ohm**
3% and 1% Tolerance



Insulated
Cu Wire

*Suit for Temperature Sensing of
Battery Pack , Power Supply etc*

“Thermo-String” **New** NTC Thermistor **HF** Type

Features

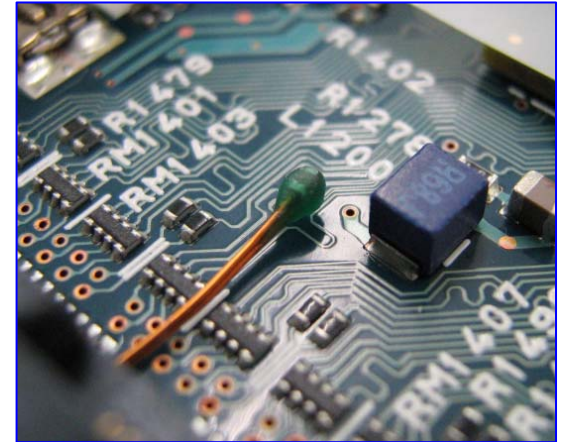
Halogen Free

Ultra Small Head (1.6mm)

Varied Characteristics from Chip Thermistor

Flexible Length from 25mm to 150mm

High Accuracy up to +/-1% at 25degC



New release Items

Temporary P/N	Resistance @25degC	B-constant (25/50degC)	Operating Temperature
NXFT15XH103FA2B***	10k+/-1%	3380K+/-1%	-40 to 125degC
NXFT15WB473FA2B***	47k+/-1%	4050K+/-1%	-40 to 125degC
NXFT15WF104FA2B***	100k+/-1%	4250K+/-1%	-40 to 125degC

*** : suffix digits for lead length difference

The other items are coming soon... based on “NCP15 series”

Resistance Range: 22ohm to 470kohm (25degC)

Resistance Tolerance: +/-3%

Automotive grade : -40 to 150degC Operating Temperature Type

Inside Chip NTC Thermistor Characteristics

Part Number	Resistance (25°C) (ohm)	B-Constant (25-50°C) (K)	Permissible Operating Current (25°C) (mA)	Rated Electric Power (25°C) (mW)	Typical Dissipation Constant (25°C) (mW/°C)	Operating Temperature Range (°C)
NCP15XC220□03RC	22	3100 ±3%	6.70	100	1	-40 to 125
NCP15XC330□03RC	33	3100 ±3%	5.50	100	1	-40 to 125
NCP15XC470□03RC	47	3100 ±3%	4.60	100	1	-40 to 125
NCP15XC680□03RC	68	3100 ±3%	3.80	100	1	-40 to 125
NCP15XF101□03RC	100	3250 ±3%	3.10	100	1	-40 to 125
NCP15XF151□03RC	150	3250 ±3%	2.50	100	1	-40 to 125
NCP15XM221□03RC	220	3500 ±3%	2.10	100	1	-40 to 125
NCP15XM331□03RC	330	3500 ±3%	1.70	100	1	-40 to 125
NCP15XQ471□03RC	470	3650 ±2%	1.40	100	1	-40 to 125
NCP15XQ681□03RC	680	3650 ±3%	1.20	100	1	-40 to 125
NCP15XQ102□03RC	1.0k	3650 ±2%	1.00	100	1	-40 to 125
NCP15XW152□03RC	1.5k	3950 ±3%	0.81	100	1	-40 to 125
NCP15XW222□03RC	2.2k	3950 ±3%	0.67	100	1	-40 to 125
NCP15XW332□03RC	3.3k	3950 ±3%	0.55	100	1	-40 to 125
NCP15XM472□03RC	4.7k	3500 ±2%	0.46	100	1	-40 to 125
NCP15XW682□03RC	6.8k	3950 ±3%	0.38	100	1	-40 to 125
NCP15XH103□03RC	10k	3380 ±1%	0.31	100	1	-40 to 125
NCP15XV103□03RC	10k	3900 ±3%	0.31	100	1	-40 to 125
NCP15XW153□03RC	15k	3950 ±3%	0.25	100	1	-40 to 125
NCP15XW223□03RC	22k	3950 ±3%	0.21	100	1	-40 to 125
NCP15WL223□03RC	22k	4485 ±1%	0.21	100	1	-40 to 125
NCP15WB333□03RC	33k	4050 ±3%	0.17	100	1	-40 to 125
NCP15WL333□03RC	33k	4485 ±1%	0.17	100	1	-40 to 125
NCP15WB473□03RC	47k	4050 ±1%	0.14	100	1	-40 to 125
NCP15WL473□03RC	47k	4485 ±1%	0.14	100	1	-40 to 125
NCP15WD683□03RC	68k	4150 ±3%	0.12	100	1	-40 to 125
NCP15WL683□03RC	68k	4485 ±1%	0.12	100	1	-40 to 125
NCP15WF104□03RC	100k	4250 ±1%	0.10	100	1	-40 to 125
NCP15WL104□03RC	100k	4485 ±1%	0.10	100	1	-40 to 125
NCP15WL154□03RC	150k	4485 ±1%	0.08	100	1	-40 to 125
NCP15WM154□03RC	150k	4500 ±3%	0.08	100	1	-40 to 125
NCP15WM224□03RC	220k	4500 ±3%	0.06	100	1	-40 to 125
NCP15WM474□03RC	470k	4500 ±3%	0.04	100	1	-40 to 125



NCP15 series 0402 size

□ : Resistance Tolerance at 25degC

“J” = +/-5%

“E” = +/-3%

“F” = +/-1% (Special)

*available for 10kohm, 47kohm and 100kohm

Mass Production has started for limited products.