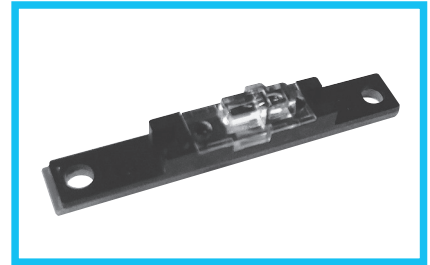


<Low price version>

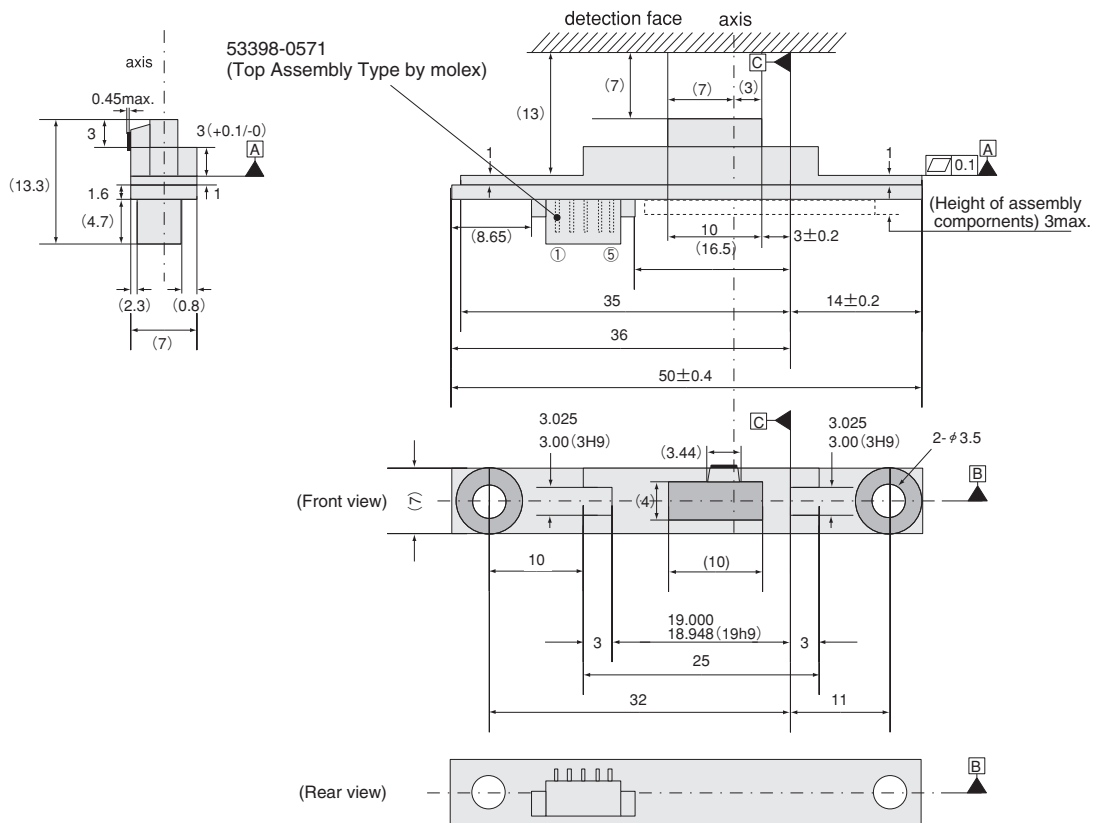
• Part Number : ZHDA1350R

• Characteristics

- Low price version has the same performance as Standard type, and the cost is low.
- Sensor outputs are analog voltage separates P-polarized and S-polarized.
- Sensor outputs are not influenced by a color of toner and quantity of toner was detected by this sensor stably.
 - ※By calculating sensor output P voltage and S voltage ,can be gained in proportion of the toner unattached area.
- Nichicon can design custom-made toner quantity sensor, based on the specific demand from the customer.
 - For example)
 - The supported sensor output rate can be changed
 - The sensor output values can be optionally configured
 - LED lights, the frequency and brightness can be adjusted
- Miniaturized with high performance by COB technology.
- The sensor has a structure to prevent stray light and reduces error of the output.
- Adapted to the RoHS directive (2011 /65/EU,(EU)2015/863).



• Dimensions(Top mount connector)



• Absolute maximum ratings (Ta : 25°C)

Item	Symbol	Range	Unit
Supply voltage	Vcc	0 to + 5.5	V
Operating temperature	Topr	0 to + 55	°C
Storage temperature	Tstg	-20 to + 70	°C

• Recommendation operating conditions

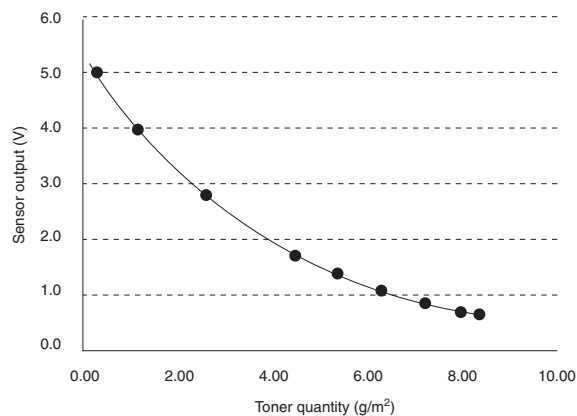
Item	Symbol	Range	Unit
Supply voltage	Vcc	+5.0 ± 0.1	V
Detection distance	Leng	6.5 to 7.5	mm

• LED properties

Item	Symbol	Range	Unit
Radiation frequency (If = 20mA)	λ_d	619 to 629	nm
Peak radiation frequency (If = 20mA)	λ_p	631	nm

※LED properties can be altered upon request.

Sensor output, toner quantity characteristics (example)



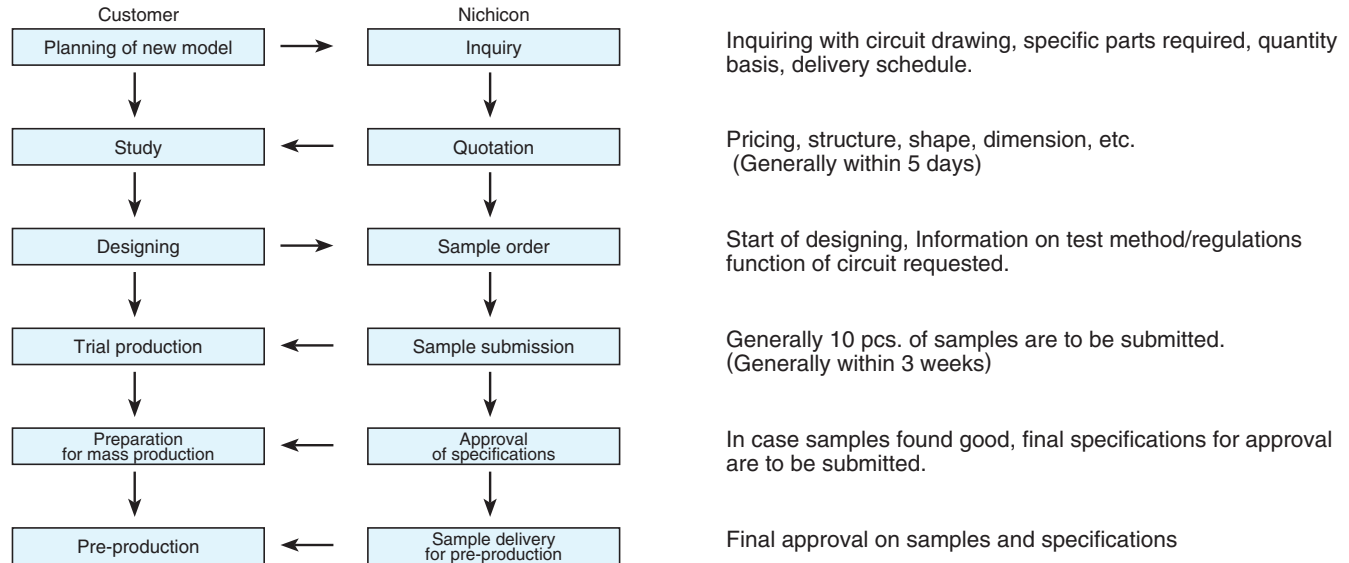
※When setting each color of toner, regardless of the color it is possible to adjust to closely similar properties.

※Low price version obtains the characteristics of the graph by calculating the output P voltage and the S voltage.

■ Custom-made Function Modules

Nichicon can design and manufacture custom-made Function Modules with special function, shape and rational design, based on the specific circuitry from the customer.
Function Modules is available with either miniature molded semiconductors or chip-bonded semiconductors for high density mounting.

Custom-made "Function Modules" is to be designed and manufactured in the following stages:



	INDISPENSABLE INFORMATION	NEEDFUL INFORMATION	INFORMATION FOR A MORE STRICT ESTIMATE
CIRCUIT INFORMATION	<ul style="list-style-type: none"> • CIRCUIT DRAWING • SPECIFIC PARTS SHOULD BE USED • QUANTITY BASIS 	<ul style="list-style-type: none"> • PART CAN BE SUBSTITUTE • DESCRIPTION OF CIRCUIT FUNCTION • TEST METHOD / REGULATION SPECIFICATION 	<ul style="list-style-type: none"> • CIRCUIT DRAWING SURROUNDING TO THE SUBJECTED CIRCUIT • DESCRIPTION OF SYSTEM FUNCTION
STRUCTURE INFORMATION	<ul style="list-style-type: none"> • STRUCTURE, DIMENSION, SHAPE, REQUIREMENTS 	<ul style="list-style-type: none"> • PIN LAYOUT • APPLICABLE SPECIFICATION (UL, ETC.) • MARKING REQUIREMENT • APPEARANCE REQUIREMENT 	<ul style="list-style-type: none"> • INFORMATION OF SPACE SURROUNDING THE POSITION THAT HYBRID IC WILL BE INSTALLED • STRUCTURE INFORMATION OF THE WHOLE UNIT
RELIABILITY REQUIREMENT INFORMATION	<ul style="list-style-type: none"> • PURPOSE OF USE 	<ul style="list-style-type: none"> • AMBIENT CONDITIONS INFORMATION • QUALITY ASSURANCE REQUIREMENT • SCREENING REQUIREMENT 	<ul style="list-style-type: none"> • WHETHER SPECIAL CONTRACT IS REQUIRED
PRODUCTION INFORMATION	<ul style="list-style-type: none"> • ANNUAL USAGE • MASS-PRODUCTION STARTING DATE 	<ul style="list-style-type: none"> • TARGET LIFE TIME • DEVELOPING SCHEDULE • NEW PROJECT OR CURRENT MODEL 	<ul style="list-style-type: none"> • TOTAL USAGE OF OTHER UNIT INCLUDED • PAST USAGE

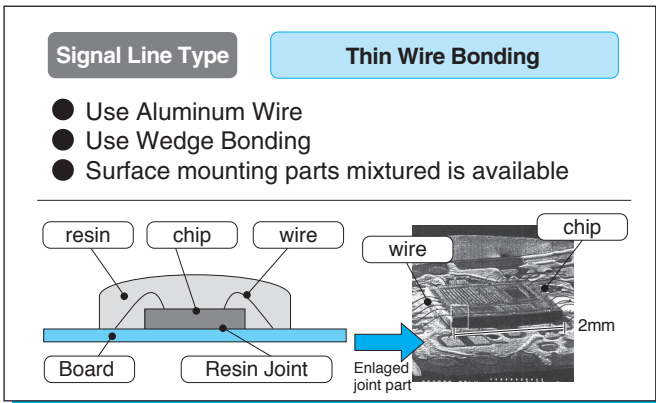
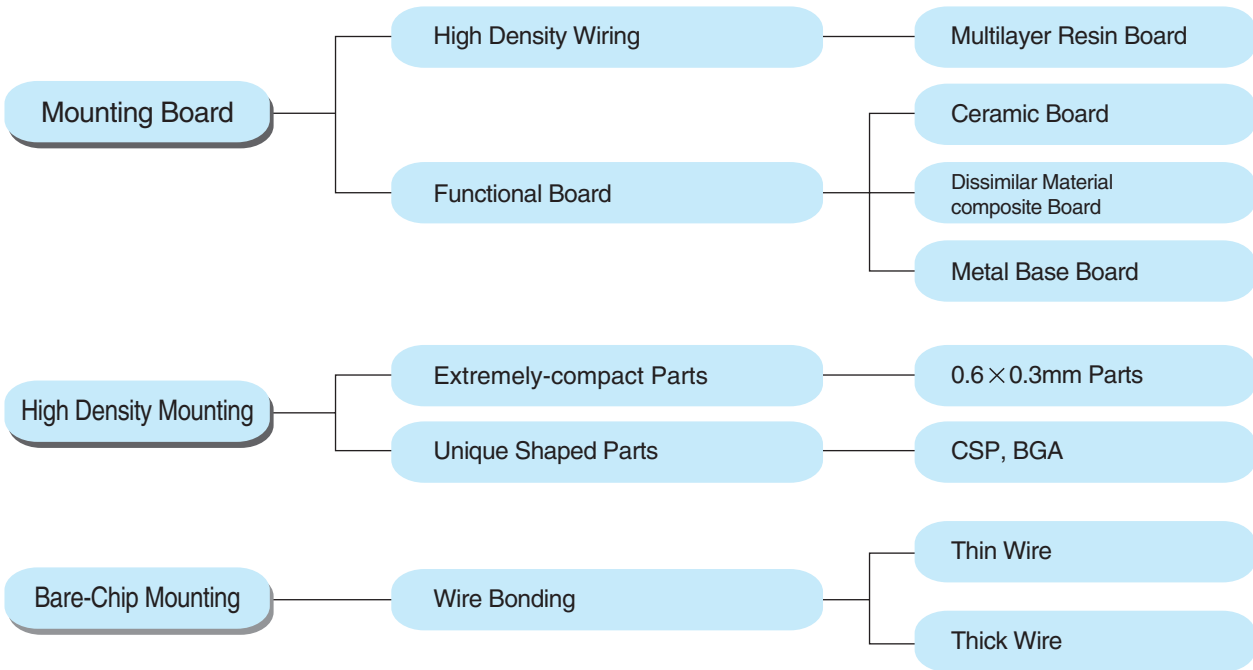
Notice:
Confidential information given by the customer will be strictly kept secret without permission in writing.

■ Function Modules Technologies

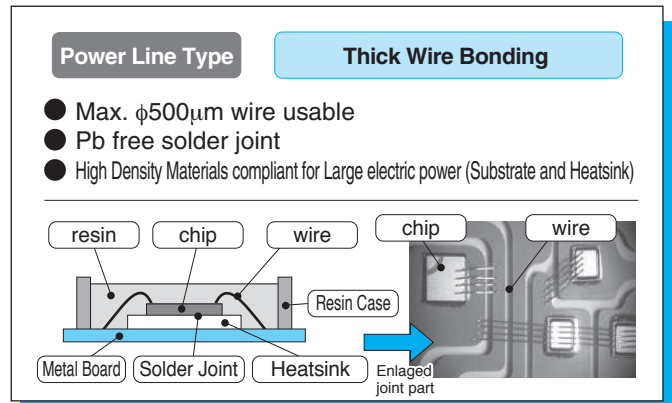
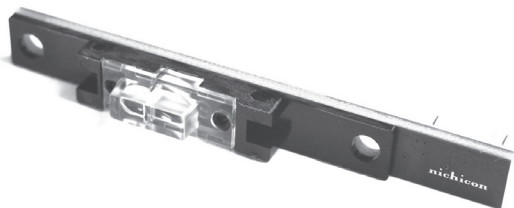
Mount Technology Segment

Purpose and means

Application technology



application case : Toner Quantity Sensor



application case : Power Module

