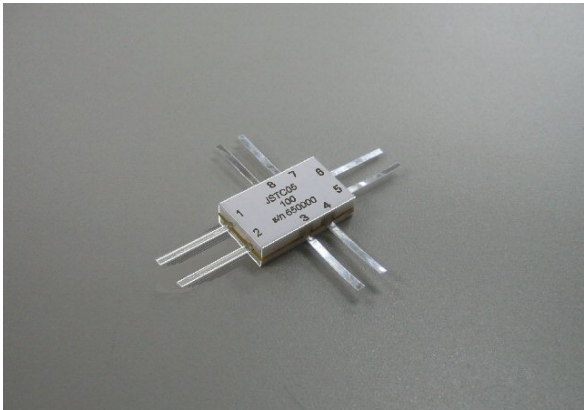


THERMAL CONVERTER ELEMENT JSTC05



Features and Applications

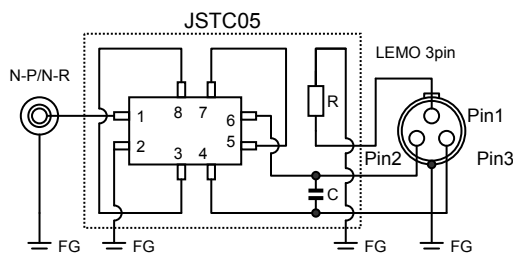
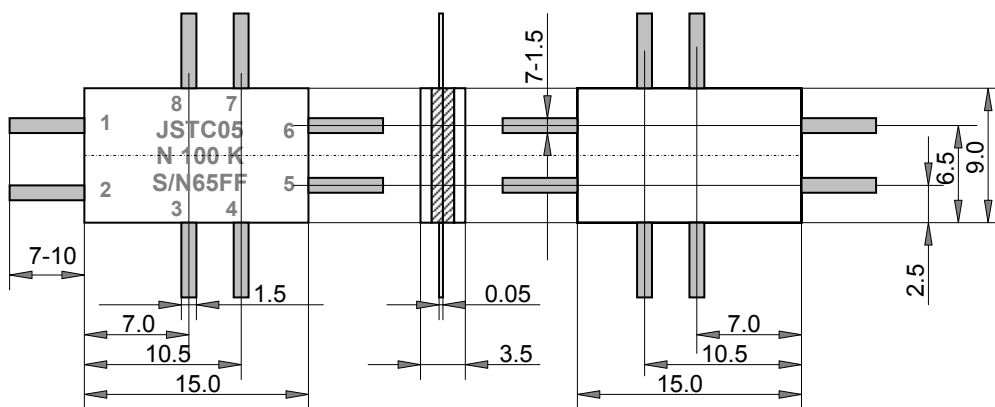
The JSTC05 is a low-frequency multi-junction thermal converter device for high-precision AC-DC transfer standards. Using NIKKOHM's unique thin-film thermopile technology, this device realizes sensitivity of 10⁻⁶ to 10⁻⁷ for comparing rms power between ac and dc input voltages.

The JSTC05 thermal converter has special dual-heater structure to adopt the 90-degree-addition method for the evaluation of low-frequency effect due to insufficient thermal averaging. By increasing thermal mass and reducing temperature coefficient of the input circuit, frequency characteristic better than 0.001% has been realized in the frequency range between 10 Hz to 10 kHz.

All the JSTC05 devices are identified by serial production numbers, and are individually inspected and guaranteed for the specifications. The inspection data include input resistance, output resistance, sensitivity (output voltage), and reversal error.

The JSTC05 thermal converter has been developed through the collaboration with AIST (National Institute of Advanced Industrial Science and Technology, Japan).

Dimensions, Pin Configuration and Connection



pin	Descriptions
1	Input A + to N connector.
2	Input B + to FG
3	Input B - to pin 8
4	DC output A +
5	DC output A -
6	DC output B -
7	DC output B+-
8	Input A -

THERMAL CONVERTER ELEMENT

JSTC05

Ordering Information

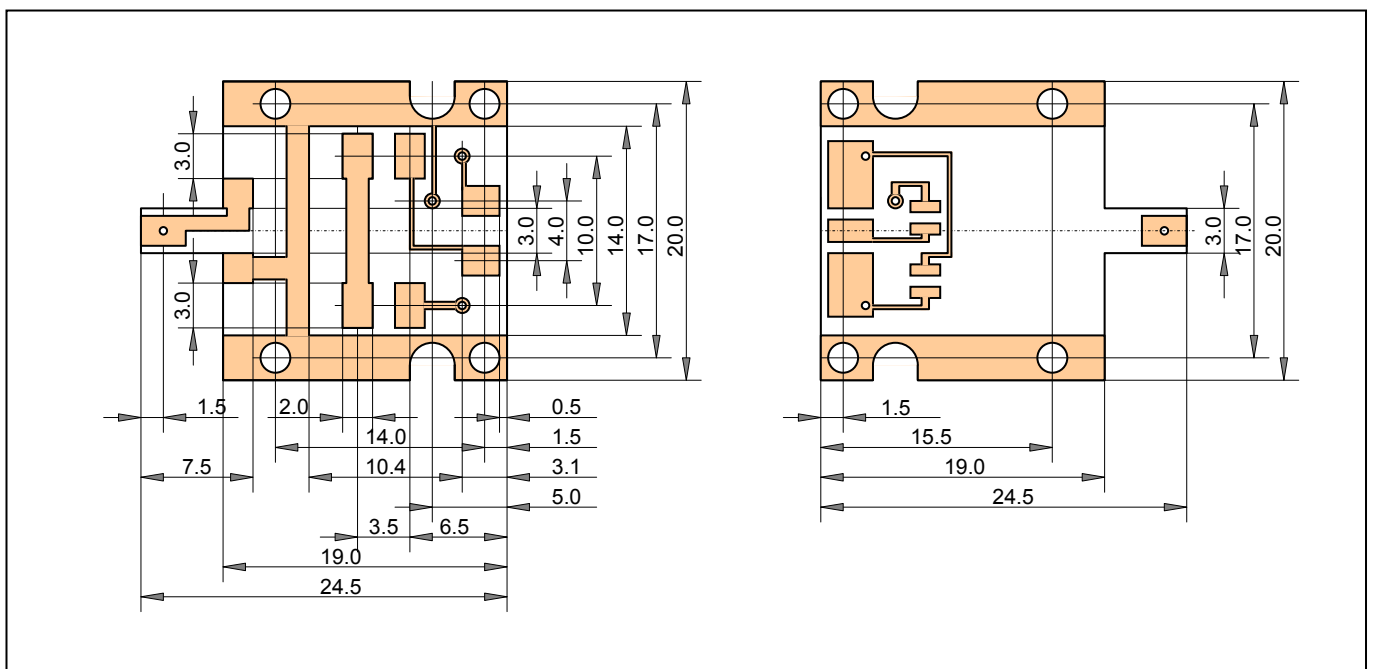
Model	TCR, input resistance	Input resistance (*)	Tolerance, Input resistance	Additional Code
JSTC05	N	100 Ohm	K	Z00
JSTC05	N (+/-10ppm/K) (*)	100 Ohm (x2)	K(+/-10%)(*)	Z00 (RoHS)

(*) Other input resistances, TCs, and tolerances are available on request.

Specifications and Performances

	JSTC05	Conditions
INPUT		
Rated Power	0.1 W	Total
Max Applied Power	0.5 W	Total
Resistance	100 Ohm (x2)	
TCR	+/-10ppm/K (N)	
Tolerance	+/-10% (K)	
Resistance Matching	+/-1%	
Frequency Range	DC, 5Hz-10kHz	
OUTPUT		
Rating output voltage	More than 60mV	
Output resistance	Less than 400 Ohm	
TC of Output resistance	+/- 300ppm/K	
INPUT/OUTPUT		
Sensitivity	More than 0.6 V/W	
TC of Sensitivity	-0.001mV/mW/K	Typical
Response Time	6.0 +/-1.0 seconds	63% response
Reversal Error	Less than 100ppm	Typical
AC-DC Difference, 10Hz-10kHz	Less than 10ppm	Typical
ENVIRONMENTAL		
Operating Temp.	25 +/- 5 degree C	
Storage Temp.	-20 to 80 degree C	

Recommended Foots patterns



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