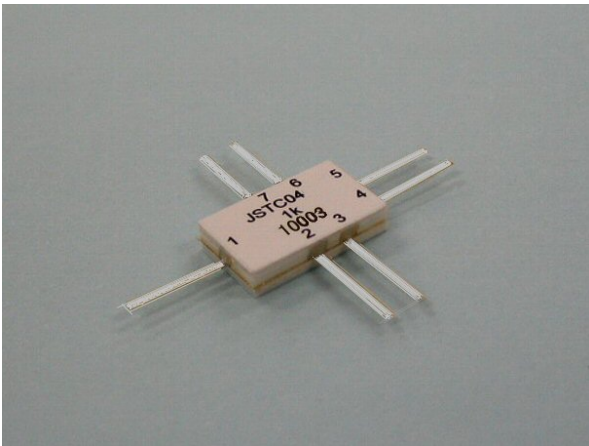


THERMAL CONVERTER ELEMENT JSTC04



Features and Applications

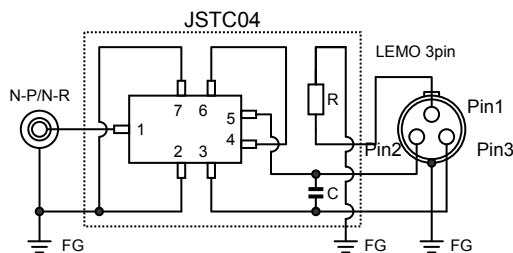
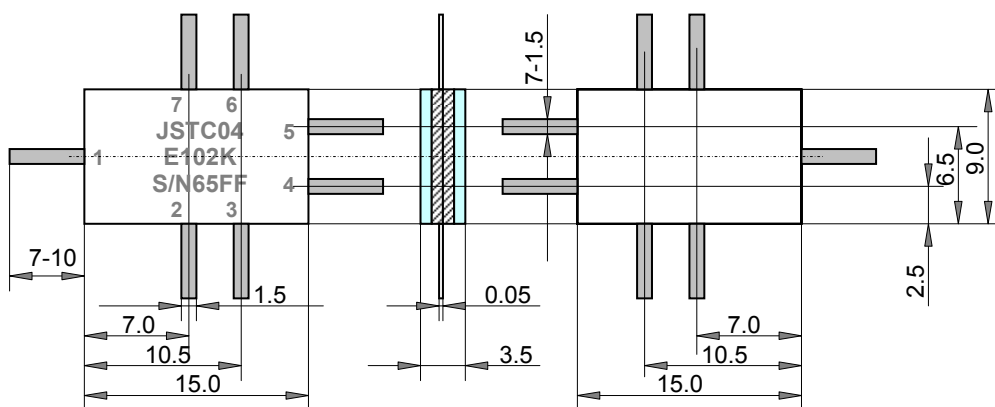
The JSTC04 is a high-frequency multi-junction thermal converter device for high-precision AC-DC transfer standards. Using NIKKOHM's unique thin-film thermopile technology, this device realizes sensitivity of 10^{-6} to 10^{-7} for comparing rms power between ac and dc input voltages.

The JSTC04 thermal converter is designed to minimize effects from stray inductances and capacitances in the input circuit. The frequency characteristic of the AC-DC transfer difference is self-calculable, and has been evaluated to be better than 0.001% in the frequency range between 10kHz to 100 kHz, and better than 0.01% up to 1 MHz.

All the JSTC04 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 JSTC04 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 Hi
2	Input Lo., internal connect to 7
3	DC output A +
4	DC output A -
5	DC output B -
6	DC output B +
7	Input Lo., internal connect to 2

THERMAL CONVERTER ELEMENT

JSTC04

Ordering Information

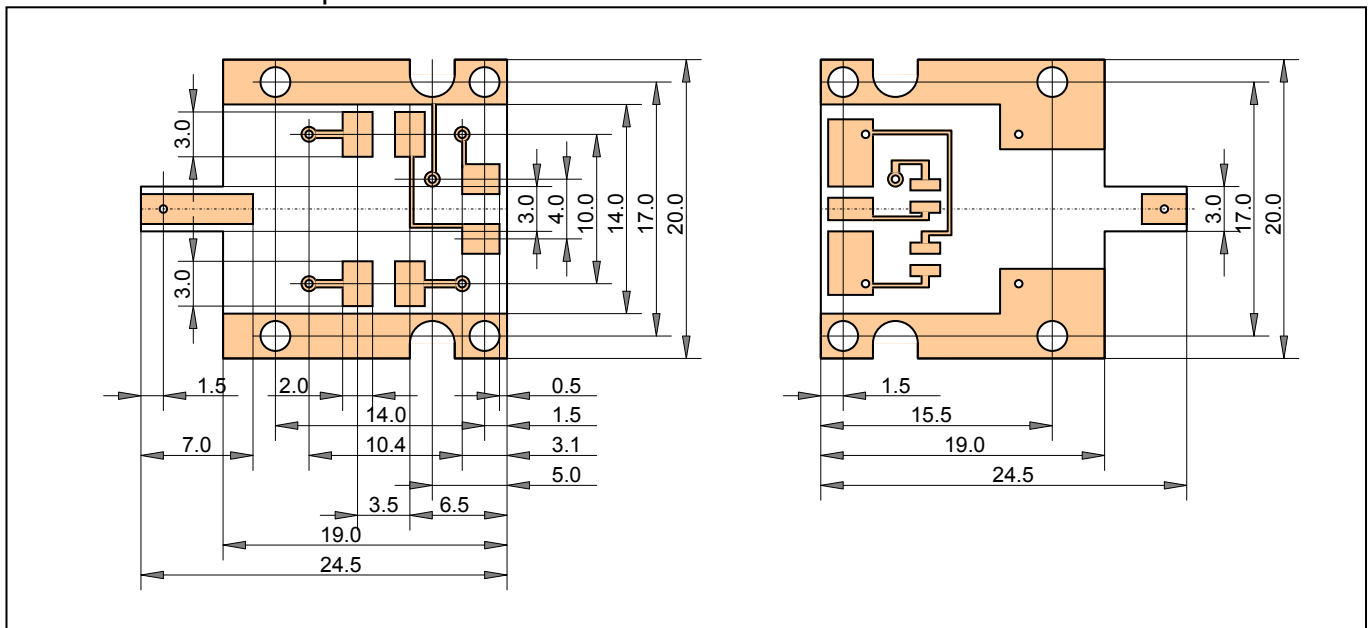
Model	TCR, input resistance	Input resistance (*)	Tolerance, Input resistance	Additional Code
JSTC04	E	500 Ohm	K	Z00
JSTC04	E (+/-25ppm/K)(*)	100 Ohm	K(+/-10%)	Z00 (RoHS)
		200 Ohm		
		500 Ohm		
		1k Ohm		
		2k Ohm		

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

Specifications and Performances

	JSTC04	Conditions
INPUT		
Rated Power	0.1 W	
Max Applied Power	0.5 W	
Resistance	100, 200, 500, 1K, 2K Ohms	
TCR	+/-25ppm/K (E)	
Tolerance	+/-10% (K)	
Frequency Range	DC,10kHz-1MHz	
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	2.5 +/-0.6 seconds	63% response
Reversal Error	Less than 100ppm	Typical
AC-DC Difference, 10k-100kHz	Less than 10ppm	Typical
AC-DC Difference, 100K-1MHz	Less than 100ppm	Typical
ENVIRONMENTAL		
Operating Temp.	25 +/- 5 degree C	
Storage Temp.	-20 to 80 degree C	

Recommended Foots patterns



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