

# TKH45 Series

## 45W TO-252 Thick Film Resistor



### FEATURES

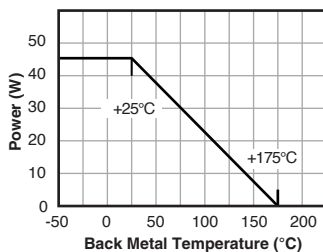
- Small size, low profile, surge capable film resistor
- -55°C to +175°C temperature range provides for automotive applications.
- Low thermal resistance under 3.0°C/W shows excellent cooling performance.
- Easy to replace D2PAK power resistor.
- Excellent rf characteristics for high speed pulse operation.
- Applications include snubber, gate control, bleeder, filter, rush current protection, PV, UPS and motor control inverters.

### CHARACTERISTICS

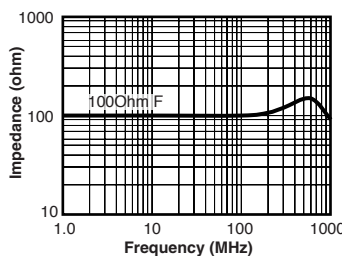
<b>Rated Power</b>	45W at -55°C to 25°C backing metal temperature; 1.0W attached on simple foot print.
<b>Heat Resistance</b>	3.0°C/W resistor to back metal
<b>Resistance Range</b>	0.5Ω-510kΩ; 0.5Ω-1.0Ω are available at 5% tol. only. E24 plus 2.5, 4.0, 5.0, 8.0, and 16
<b>Tolerance</b>	±1% (F), ±5% (J)
<b>Resistor Material</b>	Thick Film
<b>Capacitance</b>	2.65 pF Equivalent parallel capacitance, typical
<b>Inductance</b>	14.65 nH Equivalent series inductance, typical
<b>Operating Temp.</b>	-55°C to +175°C
<b>Max. Operating Current</b>	10A
<b>Max. Operating Volt.</b>	less than 500V or $\sqrt{P \cdot R}$ P is rated power and R resistance

Test	Requirement	Method
<b>Short Time Overload</b>	55W	Rated power X 2.0 and 5 second at 25°C with heat-sink
<b>TCR</b>	100ppm/°C	10Ω to 51kΩ, around 100 ppm/°C under 9.1Ω
<b>Withstanding Volt.</b>	1500 VAC	Terminal and back metal, 60 seconds. 1mA
<b>Load Life</b>	±1.0%	25°C, 90 min. ON, 30 min. OFF, 1000h.
<b>Humidity</b>	±1.0%	40°C, 90-95%RH, DC 0.1W, 1000 hours.
<b>Temp. Cycle</b>	±0.25%	-55°C, 30 min., +155°C, 30 min., 5cycle
<b>Soldering Heat</b>	±0.1%	350 ±5°C, 3 seconds
<b>Lead Solderability</b>	Over 95% of surface	250° ±5°C, 5 seconds
<b>Insulation Resistance</b>	Over 1,000MΩ	Between terminals and back metal
<b>Vibration</b>	±0.25%	IEC60068-2-6
<b>Weight</b>	0.54 gram	

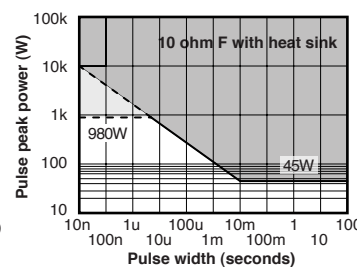
### Derating



### Frequency Characteristics

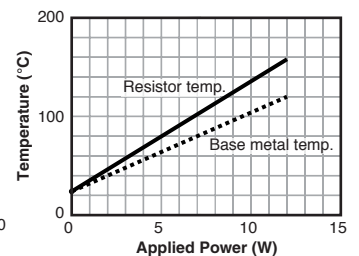


### Pulse Energy Durability



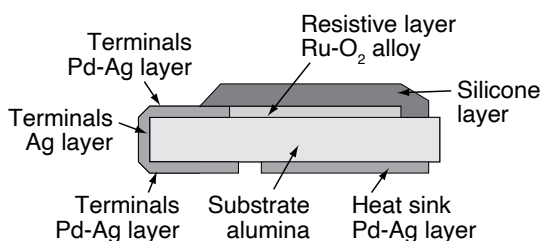
Tentative continuous-pulse power allowance at duty 0.01. Load life test will be necessary in actual equipments, because curve may be changed by resistance, repetition, duty and operating temperature.

### Temperature Rise



Actual temperature rise for TKH that is mounted on a metal insulated circuit board of 47mm x 73mm x 1mm thick.

### Construction



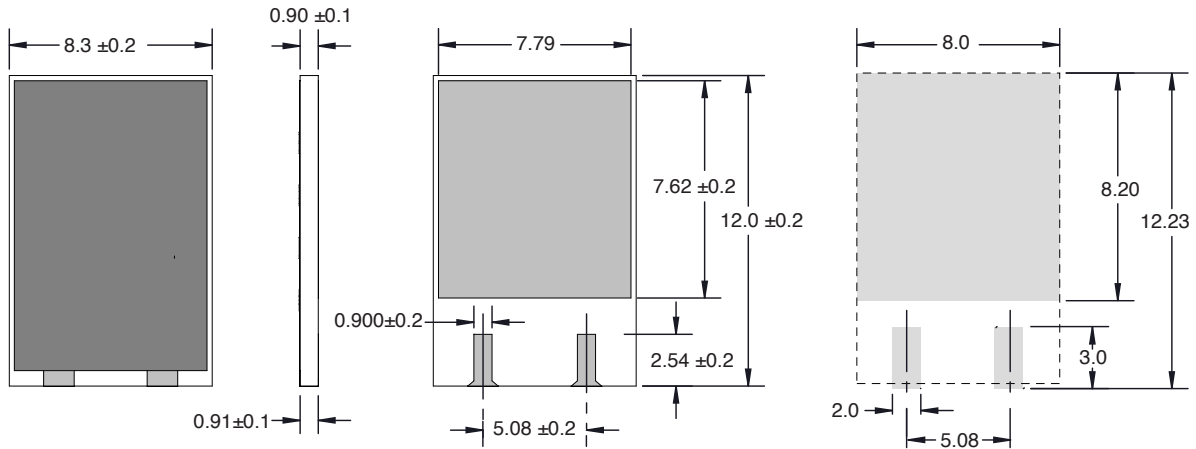
(continued)

# TKH45 Series

## 45W TO-252 Thick Film Resistor

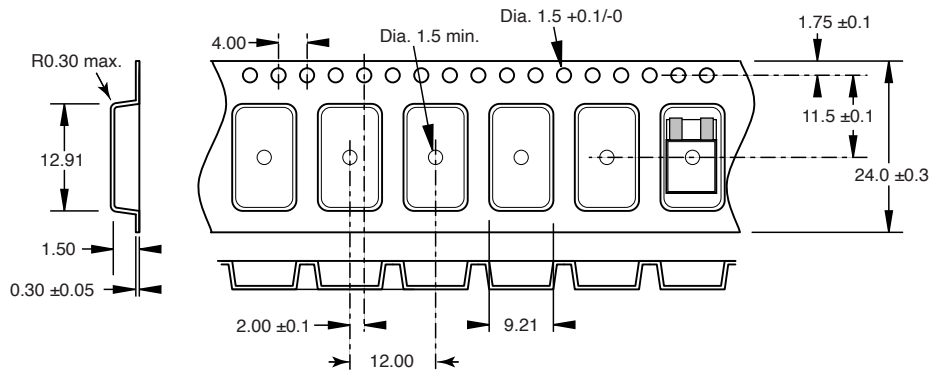
### DIMENSIONS

(mm)



### Tape and reel

500pcs per reel  
330mm reel size



### ORDERING INFORMATION

RoHS Compliant

**TKH45PR050JE-TR**

Series      Package code      Ohms      Tolerance      Tape & reel

### Standard Part Numbers

TKH45PR500JE-TR	TKH45P47R0FE-TR
TKH45P1R00FE-TR	TKH45P50R0FE-TR
TKH45P1R50FE-TR	TKH45P100RFE-TR
TKH45P2R00FE-TR	TKH45P150RFE-TR
TKH45P5R00FE-TR	TKH45P200RFE-TR
TKH45P7R50FE-TR	TKH45P300RFE-TR
TKH45P10R0FE-TR	TKH45P500RFE-TR
TKH45P20R0FE-TR	TKH45P1K00FE-TR
TKH45P25R0FE-TR	TKH45P2K50FE-TR
	TKH45P5K00FE-TR