

# KPR KPN 2/4-T227 KHR KHN 2/4-T227

Power Resistors



- Resistances from 0.05Ohm to 5MOhms
- Power Rating to 200Watt
- Resistance Tolerances to  $\pm 1\%$
- TCR to  $\pm 50\text{ppm/K}$
- TO-227 (TO-238) Housing



## SPECIFICATIONS

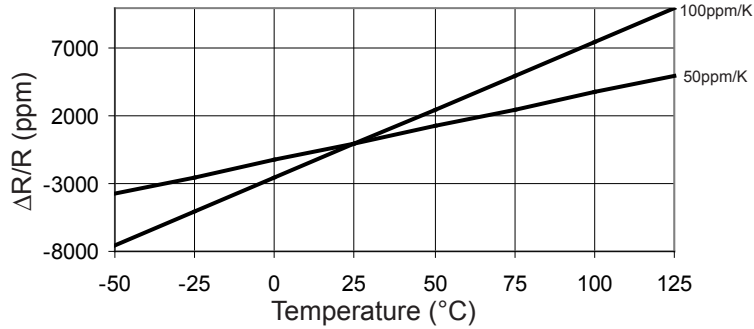
Type	KPR 2/4-T227 KPN 2-T227	KHR 2/4-T227 KHN 2-T227
Resistance Range	0.05 Ohms to 5 MOhms	
Power rating with heatsink	100 W	200 W
Thermal Resistance Rthj-c	0.7 K/W	0.35 K/W
Tolerances from 0.05 Ohms from 0.1 Ohms	2% / 5% / 10% 1% / 2% / 5% / 10%	
Stability	1%	
Temperature Coefficient 0.05 to 0.099 Ohms 0.1 to 5 MOhms	$\pm 300\text{ ppm/K}$ $\pm 100\text{ ppm/K}$ upon request $\pm 50\text{ ppm/K}$	
Voltage Proof	1.5 kVDC or 2.5 kVDC (upon request)	
Inductivity	$\leq 50\text{ nH}$	
Capacity	$\leq 35\text{ pF}$	
Max. Voltage depending on resistance value		
Operating Temperature Range	-55 to 155°C	
Resistor Material	Thick Film	
Substrate	Al <sub>2</sub> O <sub>3</sub>	
Housing	Epoxy or Plastic	
Connector Material	Cu tinned	
Terminals	2 or 4	
Max. Torque backplate terminals	1.5 Nm 1.3 Nm	

## Ordering Information

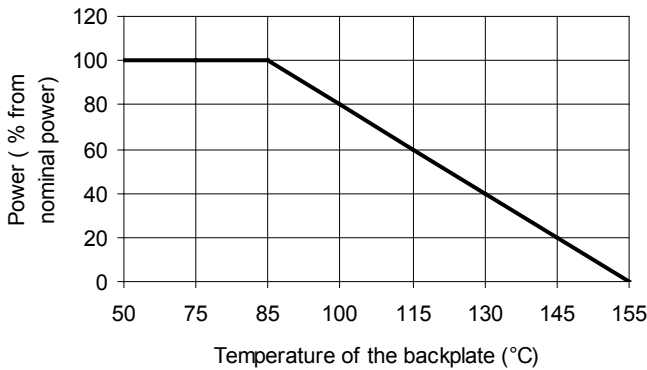
Part Number - Resistance - Tolerance  
KHR 2-T227 10 Ohms 5%

**SPECIFICATIONS** (continued)

**Temperature Coefficient**



**Derating**

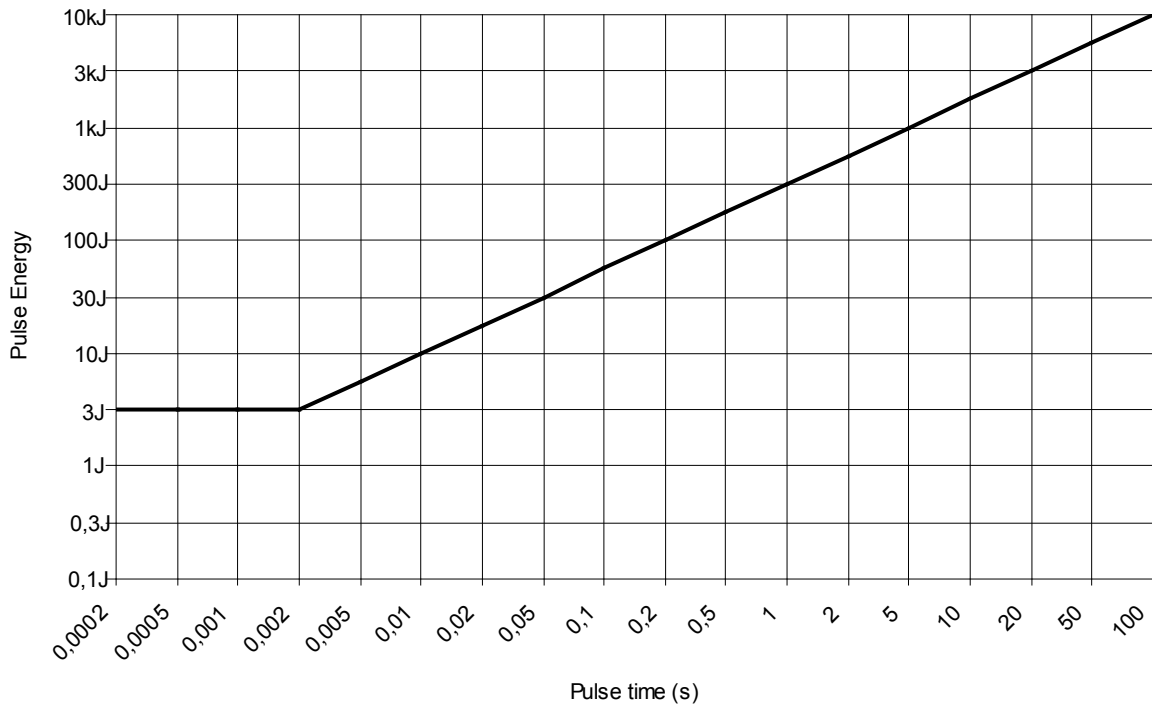


**Power Rating Notes -**  
 The KPR / KPN / KHR / KHN Series Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 155°C.  
 To specify an appropriate heatsink use the following formula :

$$R_{\theta H} = \frac{T_{MAX} - (P \times R_{\theta R}) - T_A}{P}$$

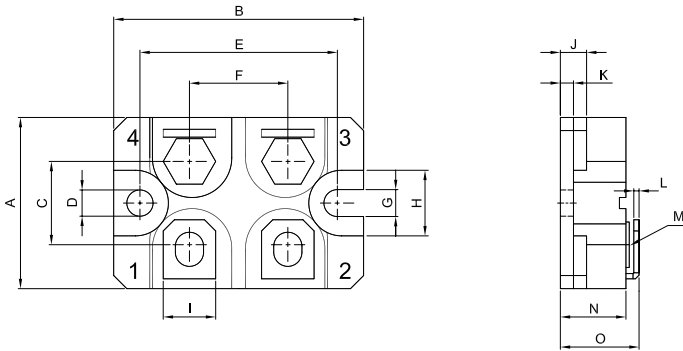
Where:  $R_{\theta H}$  = Thermal Resistance of Heatsink ( K/W )  
 $R_{\theta R}$  = Thermal Resistance of Resistor ( K/W )  
 $T_{MAX}$  = Maximum Temperature of Resistor  
 $T_A$  = Ambient Temperature of Heatsink ( °C )  
 $P$  = Power Through Resistor ( W )

**Pulse Stability**

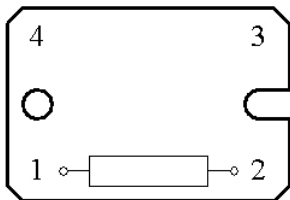


**SPECIFICATIONS** (continued)

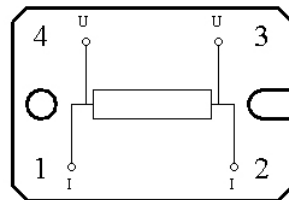
Dimensions and Attachment Variations



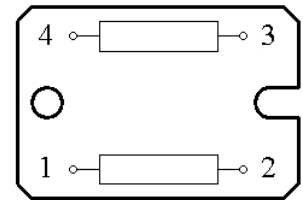
Dimension	mm	tol. (±mm)	inches	tol. (±inches)
A	26	0.5	1.02	0.020
B	38	0.5	1.50	0.020
C	12.7	0.2	0.50	0.008
D	4	0.2	0.16	0.008
E	30	0.2	1.18	0.008
F	15	0.2	0.59	0.008
G	4.1	0.2	0.16	0.008
H	10	0.2	0.39	0.008
I	8	0.2	0.31	0.008
J	4	0.2	0.16	0.008
K	2	0.2	0.08	0.008
L	0.8	0.1	0.03	0.004
M	M4		M4	
N	10	0.2	0.39	0.008
O	11.9	0.2	0.47	0.008



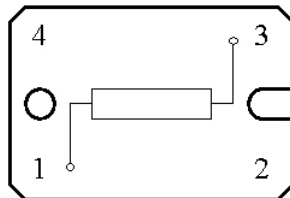
KPR/KHR 2-T227



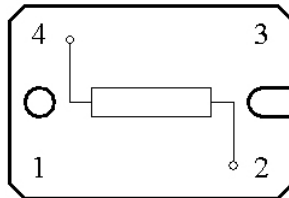
KPR/KHR 4-T227



KPN/KHN 2-T227



KPR/KHR 2-T227 dia1



KPR/KHR 2-T227 dia2