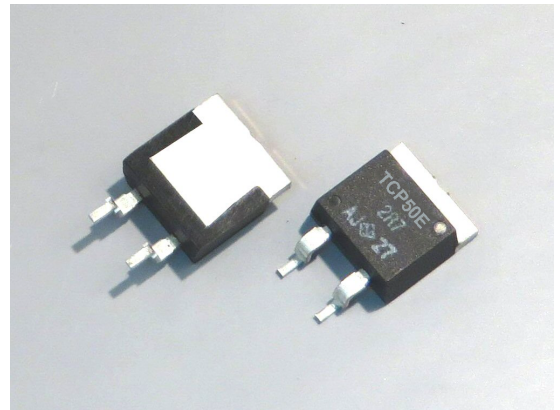


50W TO263 HIGH POWER RESISTORS (D2PAK) TCP50E



Features and Applications

TO263 (D2PAK) 50W surface mount high power resistors.

Non-inductive design suits for automotive electronics, high frequency applications and high-speed pulse circuits.

Thin film metalize technology presents lowest 2.3 °C/W heat resistance from resistor to flange

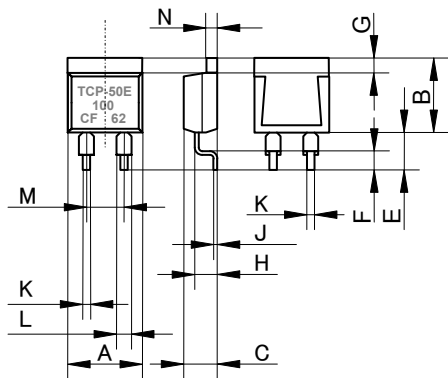
Wide, 20mΩ to 510kΩ resistance range, non-inductive impedance characteristic and heat venting through insulated metal flange aids circuit designers.

Small size and thin profile suits for high-density compact installations.

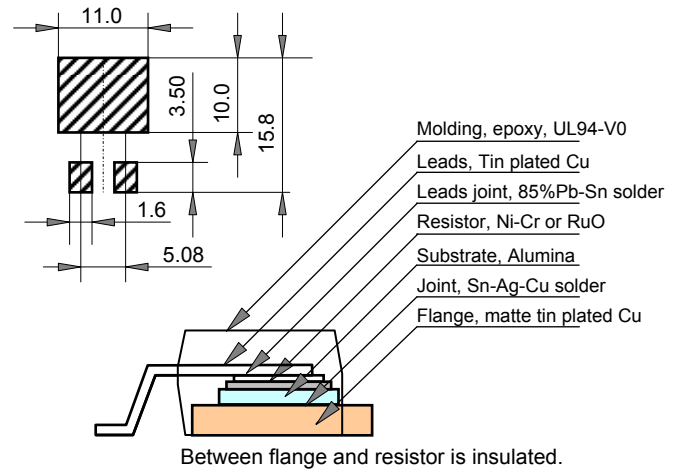
Complete thermal conduction, heat dissipation design and vibration durable design to be easy.

Applications include snubber, gate control, bleeder, filter, rush current protection, braking resistors of automotive, rail traction, wind turbine, PV, UPS and motor control inverters.

Dimensional Specifications (mm)



TCP-20E		
	mm	+/-mm
A	10.1	+/-0.2
B	10.3	+/-0.2
C	4.5	+/-0.2
D	-	-
E	5.0	+/-1.0
F	2.5	+/-0.5
G	2.2	+/-0.2
H	2.75	+/-0.2
J	0.5	+/-0.05
K	0.75	+/-0.05
L	1.5	+/-0.05
M	5.08	+/-0.10
N	1.5	+/-0.05



Ordering Information

TCP50E -	C	10R0 (*)	F	TB	Note Tape & reel 50pcs / tube
TCP50E -	H (>250ppm)	R02-R09 (+E6)	J(5%)	TR	
	A (100ppm)	R10-510K(+E24)	F(1%), J(5%)	TB	
	C (50ppm)	10R-51K (+E24)	F(1%)		

Resistance value (*) is available following modified E24, +E24.

1.0	1.1	1.2	1.3	1.5	1.6	1.8	2.0	2.2	2.4	2.5	2.7	3.0	3.3
3.6	3.9	4.0	4.3	4.7	5.0	5.1	5.6	6.2	6.8	7.5	8.0	8.2	9.1

Note*: When ordering, additional ohm resistance notation is recommended for keeping out of misunderstanding.

50W TO263 (D2PAK) HIGH POWER RESISTORS

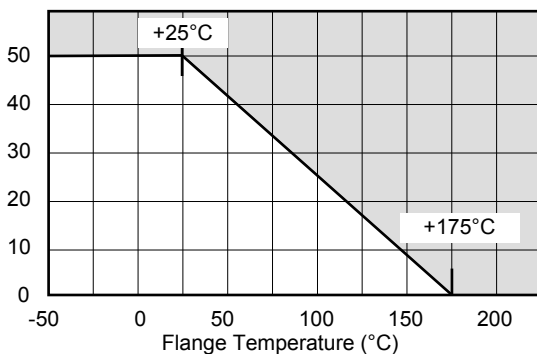
TCP50E

Specifications

Rated Power	50 Watt			-55 °C to 25 °C flange temperature
Rating Power	1 Watt			Free air.
Heat Resistance	2.3 °C/W			Hot spot to flange
Resistance Range	0.02-0.091 Ohm	0.1-510 k Ohm	10-51K Ohm	
Nominal Resistance	E6	E24+	E24	Include 2.5, 4.0, 5.0, 8.0 and 16
TCR (ppm/deg C)	250(H)	100 (A)	50 (C)	-55 °C to +155 °C
Tolerance	5%(J)	1% (F), 5% (J)	+/-1% (F)	Note 2
Resistor Material	Thick Film		Thin Film	
Capacitance	1.69pF			Equivalent parallel capacitance.
Inductance	9.65nH			Equivalent series inductance
Operation Temp. Range	-55°C to +175 °C			
Max. Operating Volt.	Small value either 700V or $\sqrt{P \times R}$			P is rating power and R resistance
Withstanding Voltage	2000 VAC			60 seconds. 1mA
Load Life	+/- 1.0 %			25 °C, 90 min. ON, 30 min. OFF, 1000 h.
Humidity	+/- 1.0 %			40 °C, 90-95%RH, DC 0.1W, 1000 h.
Temp. Cycle	+/- 0.25 %			-55 °C,30min.,+155°C,30min., 5cycles
Soldering Heat	+/- 0.1 %			350+/-5 °C, 3seconds,
Solder ability	Over 95% of surface			230+/-5 °C, 3seconds.
Insulation Resistance	Over 1,000 Meg Ω			Between terminals and flange.
Vibration	+/- 0.25 %			IEC60068-2-6, see note 4
Flammability	UL94V-0			
Weight	1.5 grams			

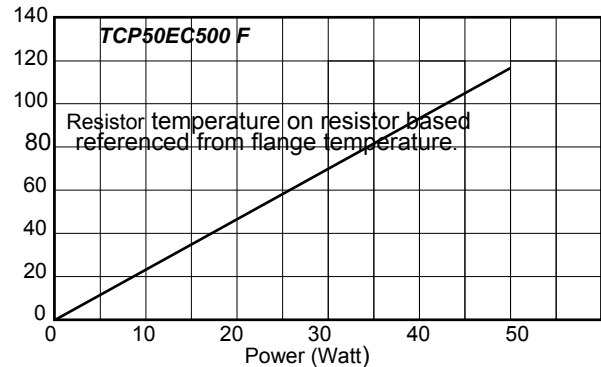
Derating

Rating Power (W)



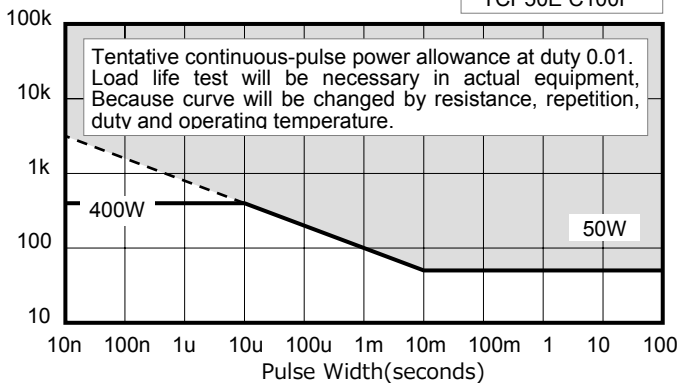
Temperature Rise

Temperature Rise (°C)



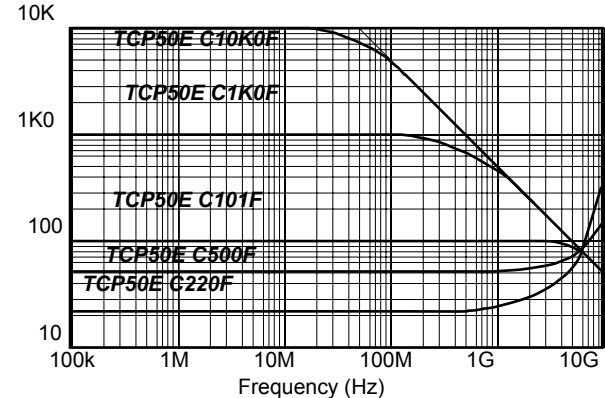
Pulse Durability

Pulse Peak Power(W)



Frequency Characteristics

Impedance (Ω)



Note:

- Resistance measurement shall be made at a point 5.27mm +/-0.6 mm from the resistor body.
- TCR of low resistance will be increased as 300ppm/0.02Ω, 200ppm/0.05Ω, 140ppm/0.1Ω and 80ppm/0.2Ω typically. Testing point is at 5.27mm from bottom of molding of terminals.
- Test method is IEC60068-2-6, and specification is sine sweep wave form, 100Hz-2000Hz, 10 cycles, amplitude 0.75mm or 100m/s², 90minutes. direction x-y, z. Amplitude 0.75mm will be applied under break point Frequency (about 60Hz) and 100m/ s² over break point
- Standard packaging is anti-static PE tape and reel, reel contains 500pcs/reel.