

POWER SOLUTION - DBL

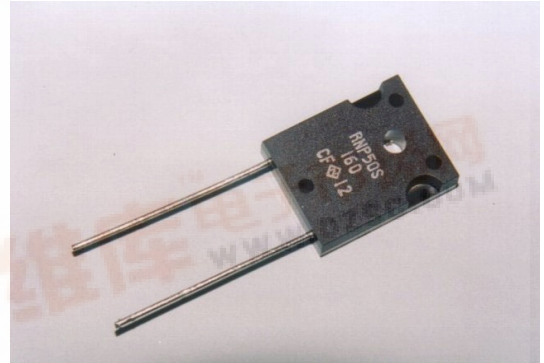
Lead Free

TO247 100W HIGH POWER RESISTORS

RNP50S



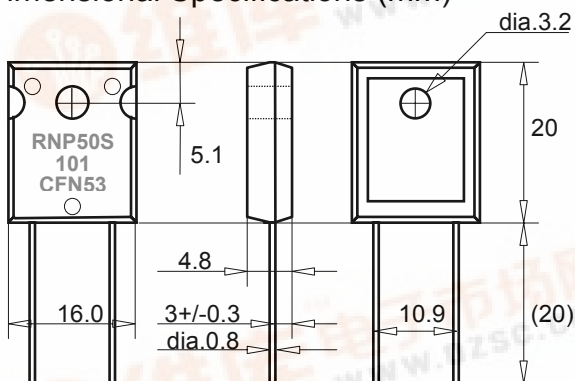
DB LECTRO
COMPOSANTS ÉLECTRONIQUES
ELECTRONIC COMPONENTS



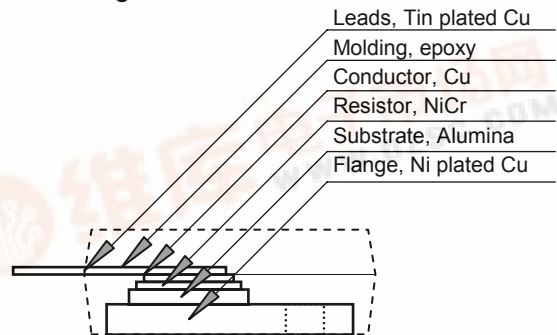
Features and Applications

- 100W high power resistor in TO-247 molded package.
- Just 1.3C/W heat resistance between resistor and flange realized.
- Non-inductive design suits for high frequency circuit and wide band amplifiers.
- Small size and thin type suits for high density electronics design.
- Complete thermal conduction and heat dissipation design to be available.
- AC motor control, IPM, SW power supply, volt power sources, constant current sources, electronic load, precision voltage sources, industrial RF power sources, RF linear amplifiers, and termination resistor of RF circuits.

Dimensional Specifications (mm)



Between flange and resistor are insulated.



Specifications and Performances

Specification Items	Specification-Performance		Test Conditions
Rating Power	100 Watts		
Rating Power	3.0 Watts		Free air.
Max. Applied Power	100 Watts		Short time overload, 2.5 seconds.
Resistance Range	0.1-9.1 ohm	10-220 ohm	Over 220 ohms are available.
Nominal Resistance	E12	E24	Additional 2.0 and 5.0.
TCR	100 ppm/C	50 ppm/C	For -55 to +155C
Tolerance	+/-5%	+/-1%	
Operation Temp. Range	-55 - +155 C		
Max. Applied Voltage	$\sqrt{P \cdot R}$		
Withstanding Voltage	2500 Volt		60 seconds.
Load Life	+/- (1.0 % + 0.05 ohm)		25C, 90 min.ON, 30min.OFF, 1000hours.
Humidity	+/- (1.0 % + 0.05 ohm)		40C, 90 - 95%RH, DC0.1W, 1000hours.
Temperature Cycle	+/- (0.25 % + 0.05 ohm)		-55C, 30 min., +155C, 30min., 5cycles.
Soldering Heat	+/- (0.25 % + 0.05 ohm)		350+/-5C, 3seconds,
Solder ability	Over 3/4 of round		230+/-5C, 3seconds.
Insulation Resistance	Over 1000 Meg ohm		Between terminals and tab.
Vibration	+/- (0.25 % + 0.05 ohm)		

Note: At resistance from 220 to 51kohms rating power shall be restricted in 20W.



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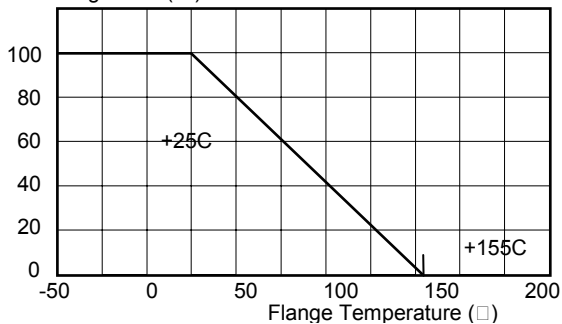
RNP50S

Ordering Information

P/N	Type	TC	Resistance	Tolerance	Additional
RNP50SC120F000	RNP50S	C(50ppm/C)	12ohm	F(1%)	000
RNP50SC120FZ00	RNP50S	C(50ppm/C)	12ohm	F(1%)	Z00 (Z: Lead-free))
RNP50SA0R1J000	RNP50S	A(100ppm/C)	0.1ohm	J(5%)	000
RNP50SA0R1JZ00	RNP50S	A(100ppm/C)	0.1ohm	J(5%)	Z00 (Z: Lead-free))

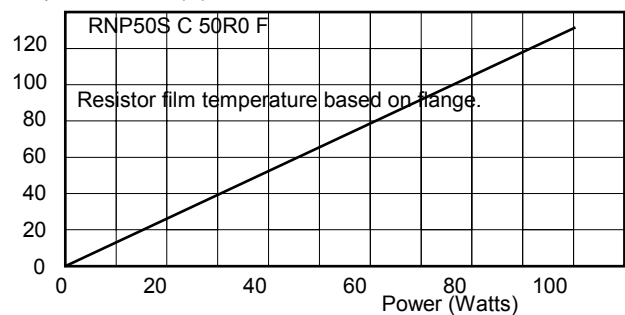
Derating Curve

Rating Power(W)



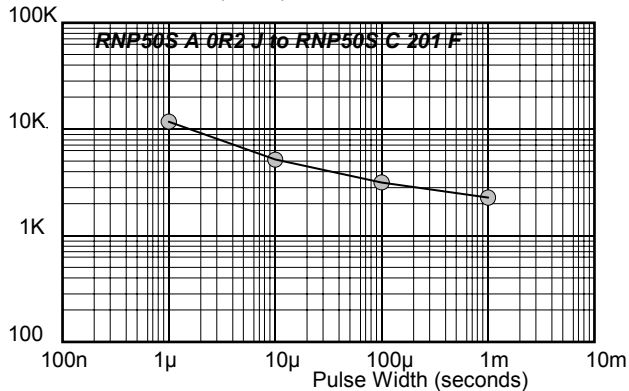
Temperature Rise

Temperature Rise (C)



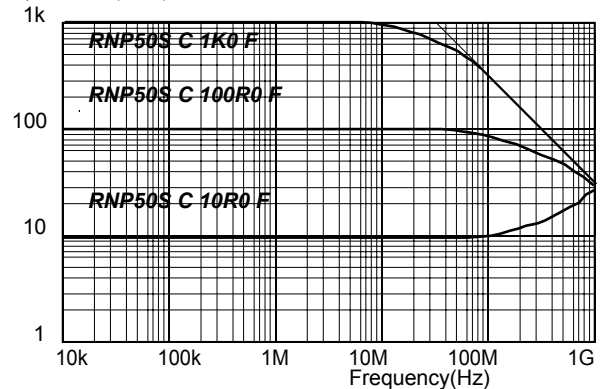
Pulse Energy Durability

Pulse Peak Watt (Watts)



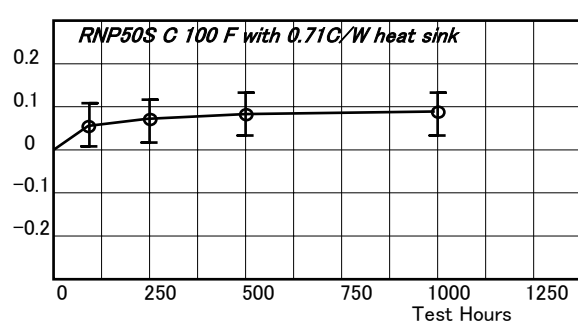
Frequency Characteristics

Impedance (ohm)



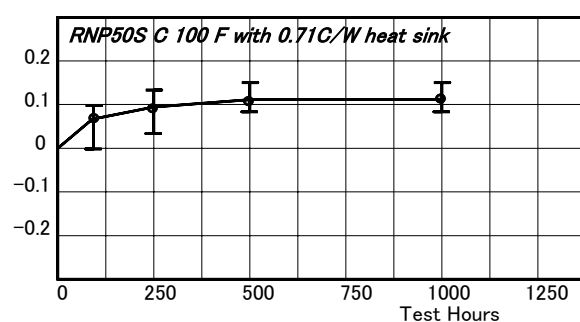
Humidity (Typical)

%R/R



Load Life (Typical)

%R/R



Note:

- (1) Insulating material is unnecessary between flange and resistors, flange and resistor is separated by alumina substrate.
- (2) At surface mount soldering, temperature profile in Flange shall not exceed 220°C.
- (3) Using heat conduction grease on surface of flange is recommended.
- (4) Heat resistance between resistor and flange is 1.3 K/W. Heat design will be done, as resistor temperature shall be under 155°C in operation.
- (5) 0.1% tolerance resistors and over 220ohm resistance are available, please call factory.