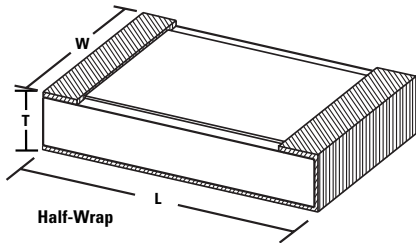
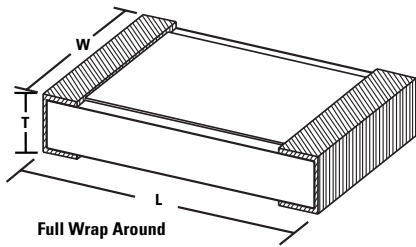


THIN FILM SURFACE MOUNT RESISTORS

WATF SERIES

MECHANICAL DATA



SERIES	L	W	T	TOLERANCE
WATF - 1	0.040" x	0.020" x	0.010"	(±0.003")
WATF - 2	0.035" x	0.035" x	0.010"	(±0.003")
WATF - 3	0.075" x	0.050" x	0.010"	(±0.003")
WATF - 4	0.050" x	0.050" x	0.010"	(±0.003")
WATF - 5	0.126" x	0.063" x	0.010"	(±0.003")
WATF - 6	0.100" x	0.050" x	0.010"	(±0.003")
WATF - 7	0.020" x	0.020" x	0.010"	(±0.003")
WATF - 8	0.055" x	0.025" x	0.010"	(±0.003")
WATF - 9	0.153" x	0.050" x	0.010"	(±0.003")
WATF -21	0.020" x	0.010" x	0.010"	(±0.003")

SUBSTRATE
RESISTOR
BOND PADS & WRAPAROUND
TERMINATIONS

99.6% ALUMINA, ALUMINUM NITRIDE
NICHROME OR TANTALUM NITRIDE

GOLD WITH NICKEL BARRIER STANDARD.
OPTIONAL WITH SOLDER; OR HALF-WRAP TERMINATION

ELECTRICAL DATA

SERIES	OHMIC VALUE	POWER RATING @ 70°C
WATF - 1	2Ω - 18KΩ	125mW
WATF - 2	2Ω - 150KΩ	250mW
WATF - 3	2Ω - 400KΩ	250mW
WATF - 4	2Ω - 400KΩ	250mW
WATF - 5	2Ω - 700KΩ	500mW
WATF - 6	2Ω - 625KΩ	250mW
WATF - 7	2Ω - 51KΩ	125mW
WATF - 8	2Ω - 100KΩ	250mW
WATF - 9	2Ω - 1MΩ	500mW
WATF -21	2Ω - 20KΩ	50mW

ABSOLUTE TOLERANCE
T.C.R.

0.1%, 0.5%, 1%, 2%, 5%, 10%
±25ppm/°C STANDARD (NiCr); ±150ppm/°C STANDARD (TaN)
OPTIONAL TO ±25ppm/°C

SERIES DATA

CURRENT NOISE	101Ω TO 250KΩ: -40dB ≤ 100Ω, ≥ 250KΩ: -30dB
DIELECTRIC BREAKDOWN	400 V MIN.
INSULATION RESISTANCE	10 ¹² Ω MIN.
OPERATING VOLTAGE	100 V MAX.
SHORT TERM OVERLOAD	5X RATED POWER, 25°C, 5 SEC., ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
HIGH TEMP EXPOSURE	150°C, 100 HRS., ±0.25% MAX. ΔR/R: ±0.03% MSI TYPICAL
THERMAL SHOCK	MIL-STD 202, METHOD 107F, ±0.25% MAX. ΔR/R: ±0.1% MSI TYPICAL
MOISTURE RESISTANCE	MIL-STD 202, METHOD 106, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
STABILITY	1000 HRS., 70°C, 100% POWER, ±0.5% MAX. ΔR/R: ±0.1% MSI TYPICAL
OPERATING TEMP RANGE	-55°C TO +150°C
FREQUENCY	DC THROUGH 20 GHz
STRAY DISTRIBUTED CAPACITANCE	0.06pF

PART NUMBER DESIGNATION

WATF	X	X	XXXXX	X	X
SERIES	SUBSTRATE	RESISTIVE FILM	OHMIC VALUE	TOLERANCE	OPTION
1, 2	A = Alumina	N = Nichrome	5-Digit Number:	B = 0.1%*	A = ±50ppm/°C
3, 4	N = Aluminum	T = Tantalum	1st 4 Digits Are	D = 0.5%*	B = ±25ppm/°C
5, 6	Nitride	Nitride	Significant With	F = 1%	HWU = Half-Wrap
7, 8			"R" As Decimal	G = 2%	Untinned
9, 21			Point When	J = 5%	*** T = With SN62
			Required.	K = 10%	Solder
			5th Digit		*** T3 = Leadfree Solder
			Represents		**** TR = Tape and Reel
			Number of Zeros.		U = Untinned**
					HWT = Half-Wrap
					Tinned.
					HWT3 = Half-Wrap
					Leadfree Tinned

Consult Sales for power capabilities
on Aluminum Nitride.

* Value Dependent
** For Conductive Epoxy Mount.
*** For Solder Mount.
**** Consult Sales for Availability.
(Solder option applies to all Conductor Surfaces)

EXAMPLE: WATF 1AN-50R00F-T = 0.040" x 0.020" x 0.010", Alumina Substrate,
Nichrome Resistor, 50Ω, ±1% Tol., ±25ppm/°C, w/ Solder. Full Wrap Around.

CHIP
RESISTORS

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DCN TF 111-F-0306