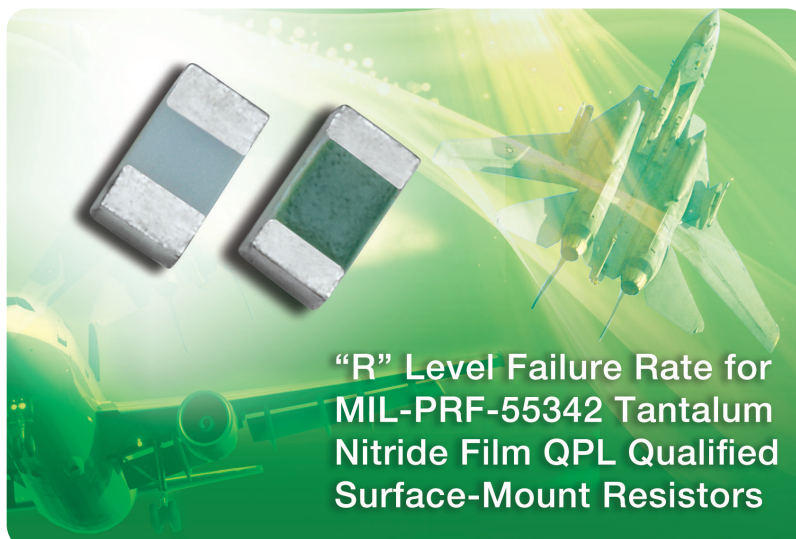




THIN FILM SMD CHIP RESISTOR

E/H (QPL Qualified MIL-PRF-55342)

MIL-PRF-55342 Tantalum Nitride QPL Qualified, Precision Thin Film Surface-Mount Chip Resistor



“R” Level Failure Rate for
MIL-PRF-55342 Tantalum
Nitride Film QPL Qualified
Surface-Mount Resistors

KEY BENEFITS

- QPL listed for MIL-PRF-55342 established reliability, “R” failure rate level
- Moisture resistant tantalum nitride resistive film
- Tolerance to 0.1 %, TCR of 25 ppm/°C
- Resistance range 49.9 Ω to 3.3 M Ω

APPLICATIONS

- Military
- Aerospace

RESOURCES

- Datasheet: E/H (QPL Qualified MIL-PRF-55342) - <http://www.vishay.com/doc?60120>
- For technical questions contact thinfilm@vishay.com

Resistors - QPL "R" Level Failure Rate

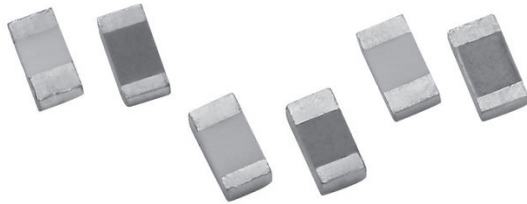
One of the World's Largest Manufacturers of
Discrete Semiconductors and Passive Components



THIN FILM SMD CHIP RESISTOR

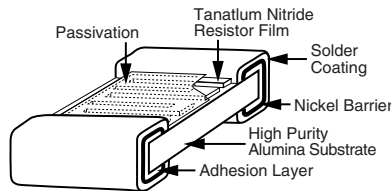
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Thin Film Mil chip resistors feature all sputtered wraparound termination for excellent adhesion and dimensional uniformity. They are ideal in applications requiring stringent performance requirements. Established reliability is assured through 100 % screening and extensive environmental lot testing.

CONSTRUCTION



FEATURES

- Established reliability, "R" failure rate level (0.01 % per 1000 h), C = 2
- High purity alumina substrate 99.5% Al₂O₃
- Wraparound termination featuring a tenacious adhesion layer covered with an electroplated nickel barrier layer for + 150 °C operating conditions
- Very low noise and voltage coefficient (< - 25 dB, 0.5 ppm/V)
- Non-inductive
- Laser-trimmed tolerances ± 0.1 %
- Complete MIL-testing available in-house
- Antistatic waffle pack or tape and reel packaging available
- Military/aerospace/QPL approval

TYPICAL PERFORMANCE

	ABSOLUTE
TCR	25
TOL.	0.1

STANDARD ELECTRICAL SPECIFICATIONS

TEST	SPECIFICATIONS	CONDITIONS
Material	Tantalum nitride (Ta ₂ N) resistor film	-
Resistance Range	49.9 Ω to 3.3 MΩ	-
TCR: Absolute	± 25 ppm/°C to ± 300 ppm/°C	- 55 °C to + 125 °C
Tolerance: Absolute	± 0.1 % to ± 10 %	+ 25 °C
Stability: Absolute	ΔR ± 0.02 %	2000 h at + 70 °C
Stability: Ratio	-	-
Voltage Coefficient	0.1 ppm/V	-
Working Voltage	30 V to 200 V	-
Operating Temperature Range	- 55 °C to + 125 °C	-
Storage Temperature Range	- 55 °C to + 150 °C	-
Noise	< - 25 dB	-
Shelf Life Stability: Absolute	ΔR ± 0.01 %	1 year at + 25 °C

COMPONENT RATINGS

CASE SIZE	POWER RATING (mW)	WORKING VOLTAGE (V)	RESISTANCE RANGE BY TOLERANCE		
			0.1 %, 0.25 %, 0.5 %, 1 %	2.0 % and 5.0 %	10 %
M55342/01	50	40	49.9 Ω to 64.9 KΩ	51 Ω to 68 KΩ	51 Ω to 68 KΩ
M55342/02	125	40	49.9 Ω to 140 KΩ	51 Ω to 150 KΩ	51 Ω to 150 KΩ
M55342/03	200	75	49.9 Ω to 357 KΩ	51 Ω to 360 KΩ	51 Ω to 360 KΩ
M55342/04	150	125	49.9 Ω to 806 KΩ	51 Ω to 820 KΩ	51 Ω to 820 KΩ
M55342/05	225	175	49.9 Ω to 1.5 MΩ	51 Ω to 1.5 MΩ	51 Ω to 1.5 MΩ
M55342/06	150	50	49.9 Ω to 309 KΩ	51 Ω to 820 KΩ	51 Ω to 820 KΩ
D55342/07	250	100	49.9 Ω to 1 MΩ	51 Ω to 1 MΩ	51 Ω to 1 MΩ
M55342/08	800	150	49.9 Ω to 2.0 MΩ	49.9 Ω to 2.0 MΩ	51 Ω to 2.23 MΩ
M55342/09	1000	200	49.9 Ω to 3.01 MΩ	51 Ω to 3 MΩ	51 Ω to 3.3 MΩ
M55342/10	500	75	49.9 Ω to 604 KΩ	51 Ω to 620 KΩ	51 Ω to 680 KΩ
M55342/11	50	30	49.9 Ω to 49.9 KΩ	51 Ω to 51 KΩ	51 Ω to 51 KΩ
M55342/12	100	50	49.9 Ω to 130 KΩ	51 Ω to 130 KΩ	51 Ω to 150 KΩ

Note

- Values listed are a guide, refer to MIL spec for value/tolerance allowance

Revision 24-Apr-13