

# Precision Military and Space Qualified Chip Resistors

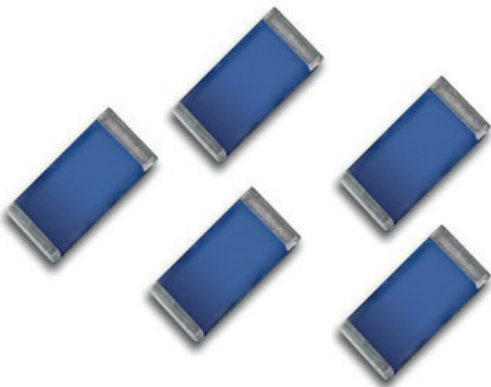


## MIL-CHIP Series

**OBSOLETE**

### Features

- Now qualified to MIL-PRF-55342 Space Level T
- Four industry standard sizes available
- MIL-PRF-55342 Characteristics E, H, K, and M
- MIL-PRF-55342 extended reliability levels C, M, P, R, S and T



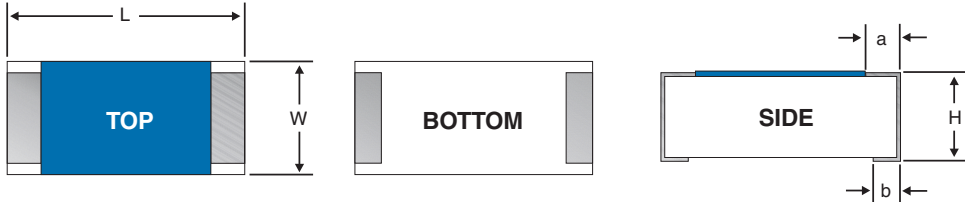
## MIL-PRF-55342 Qualified Product Listing (QPL)

| Style Size         | Technology                      | MIL-PRF-55342 Characteristic | Tolerance      | Resistance Range (Ω) | Rated Voltage* (V) | Rated Power (mW) | Reliability Level | Termination Type                                 |
|--------------------|---------------------------------|------------------------------|----------------|----------------------|--------------------|------------------|-------------------|--------------------------------------------------|
| Style 11<br>RM0402 | Thin Film PFC Series (TaNFilm®) | E, H, K, M                   | ±0.1%          | 100R - 30K           | 30                 | 50               | C, M, P, R, S     | Type `B`<br><br>Sn/Pb solder over nickel barrier |
|                    |                                 |                              | ±1%            | 49R9 - 29K           |                    |                  |                   |                                                  |
|                    |                                 |                              | ±2%, ±5%       | 51R0 - 30K           |                    |                  |                   |                                                  |
|                    |                                 |                              | ±10%           | 51R0 - 27K           |                    |                  |                   |                                                  |
| Style 12<br>RM0603 | Thin Film PFC Series (TaNFilm®) | E, H, K, M                   | ±0.1%, ±1%     | 10R0 - 59K           | 50                 | 100              | C, M, P, R, S, T  |                                                  |
|                    |                                 |                              | ±2%, ±5%, ±10% | 10R0- 56K            |                    |                  |                   |                                                  |
| Style 06<br>RM0705 | Thin Film PFC Series (TaNFilm®) | E, H, K, M                   | ±0.1%          | 10R0 - 125K          | 50                 | 150              | C, M, P, R, S, T  |                                                  |
|                    |                                 |                              | ±1%            | 10R0- 124K           |                    |                  |                   |                                                  |
|                    |                                 |                              | ±2%, ±5%, ±10% | 10R0- 120K           |                    |                  |                   |                                                  |
| Style 07<br>RM1206 | Thin Film PFC Series (TaNFilm®) | E, H, K, M                   | ±0.1%          | 100R - 500K          | 100                | 250              | C, M, P, R, S, T  |                                                  |
|                    |                                 |                              | ±1%            | 10R0- 499K           |                    |                  |                   |                                                  |
|                    |                                 |                              | ±2%, ±5%, ±10% | 10R0- 470K           |                    |                  |                   |                                                  |

\*Note: Voltage shall not exceed  $\sqrt{P \times R}$ .

OBSOLETE

Physical Data

|  |               |               |               |               |               |
|------------------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|
|                                                                                    | L             | W             | H             | a             | b             |
| 0402                                                                               | 0.040" ±0.002 | 0.021" ±0.002 | 0.012" ±0.003 | 0.008" ±0.002 | 0.010" ±0.002 |
| 0603                                                                               | 0.063" ±0.004 | 0.031" ±0.004 | 0.020" ±0.004 | 0.012" ±0.005 | 0.015" ±0.005 |
| 0805                                                                               | 0.081" ±0.005 | 0.050" ±0.005 | 0.020" ±0.006 | 0.016" ±0.008 | 0.016" ±0.008 |
| 1206                                                                               | 0.126" ±0.006 | 0.063" ±0.005 | 0.024" ±0.004 | 0.016" ±0.008 | 0.016" ±0.008 |

Environmental Data

| Environmental Test<br>MIL-PRF-55342 | Thin Film Performance             |                |
|-------------------------------------|-----------------------------------|----------------|
|                                     | MIL-PRF-55342<br>Characteristic H | Typical IRC ΔR |
| Thermal Shock                       | ±0.25%                            | ±0.02%         |
| Low Temperature Operation           | ±0.25%                            | ±0.01%         |
| Short-time Overload                 | ±0.10%                            | ±0.01%         |
| High Temperature Exposure           | ±0.50%                            | ±0.03%         |
| Resistance to Solder                | ±0.25%                            | ±0.01%         |
| Moisture Resistance                 | ±0.40%                            | ±0.03%         |
| Life                                | ±2.0%                             | ±0.03%         |

Packaging

Standard packing for all styles is tape and reel in a quantity of 500 pieces.  
Optionally the reel quantity may be 1000 pieces, and product level T (space) has an additional option of 300 pieces per reel.  
A service of packing to waffle trays of 100 pieces is available for styles 12, 06 and 07.

## Ordering Procedure

**Example: D55342H07B1E00S** (Style RM1206,  $\pm 50\text{ppm}/^{\circ}\text{C}$ , specification number 07, SnPb termination,  $1\text{k}\Omega$ ,  $\pm 1\%$ , failure rate 0.001%/1000 hours)

|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D | 5 | 5 | 3 | 4 | 2 | H | 0 | 7 | B | 1 | E | 0 | 0 | S |
| 1 |   |   |   |   |   | 2 | 3 | 4 | 5 |   |   |   |   | 6 |

| 1<br>Military Designator |       | 2<br>Characteristic |            | 3<br>Specification |      | 4<br>Termination |                | 5<br>Value & Tolerance                                                                                                        | 6<br>Product Level |              |
|--------------------------|-------|---------------------|------------|--------------------|------|------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|
| M55342                   | 0402, | E                   | 25ppm/°C   | 11                 | 0402 | B                | SnPb           | 4 character code.<br>Letter code marks<br>decimal position and<br>indicates multiplier<br>and tolerance - see<br>table below. | C                  | Non-ER       |
|                          | 0603, | H                   | 50 ppm/°C  | 12                 | 0603 |                  |                |                                                                                                                               | M                  | 1%/1000hrs   |
|                          | 0805  | K                   | 100 ppm/°C | 06                 | 0805 |                  |                |                                                                                                                               | P                  | 0.1%/1000hrs |
| D55342                   | 1206  | M                   | 300 ppm/°C | 07                 | 1206 | R                | 0.01%/1000hrs  |                                                                                                                               |                    |              |
|                          |       |                     |            |                    |      | S                | 0.001%/1000hrs |                                                                                                                               |                    |              |
|                          |       |                     |            |                    |      | T                | Space level    |                                                                                                                               |                    |              |

| Value &<br>Tolerance Code |      | Multiplier |        |           |
|---------------------------|------|------------|--------|-----------|
|                           |      | x1         | x 1000 | x1000,000 |
| Tolerance                 | 0.1% | A          | B      | C         |
|                           | 1%   | D          | E      | F         |
|                           | 2%   | G          | H      | T         |
|                           | 5%   | J          | K      | L         |
|                           | 10%  | M          | N      | P         |