

# Surface-Mount Chip Terminations >

Surface-Mount Chip Terminations deliver consistent power handling and thermal dissipation in a compact, vibration-resistant package. These terminations provide precise impedance matching at frequencies up to 12.4 GHz and are prequalified to MIL-PRF/AEC-Q200 standards, offering reliable and heatsink-free performance in RF modules.

## ADVANTAGES AND FEATURES

### Minimizes PCB space

The terminations are available in sizes as small as 1.3 by 0.6 by 0.3mm, eliminating the need for bulky coaxial terminations and reducing the weight and package size on the PCB.

### Delivers high-precision performance

The laser-trimmed, distributed thin film is carefully engineered to achieve specified tolerances, keeping signal loss change under 0.5 dB and preventing performance degradation for essential systems.

### Offers low VSWR

The design absorbs RF energy without reflection, improving system efficiency and minimizing return loss.

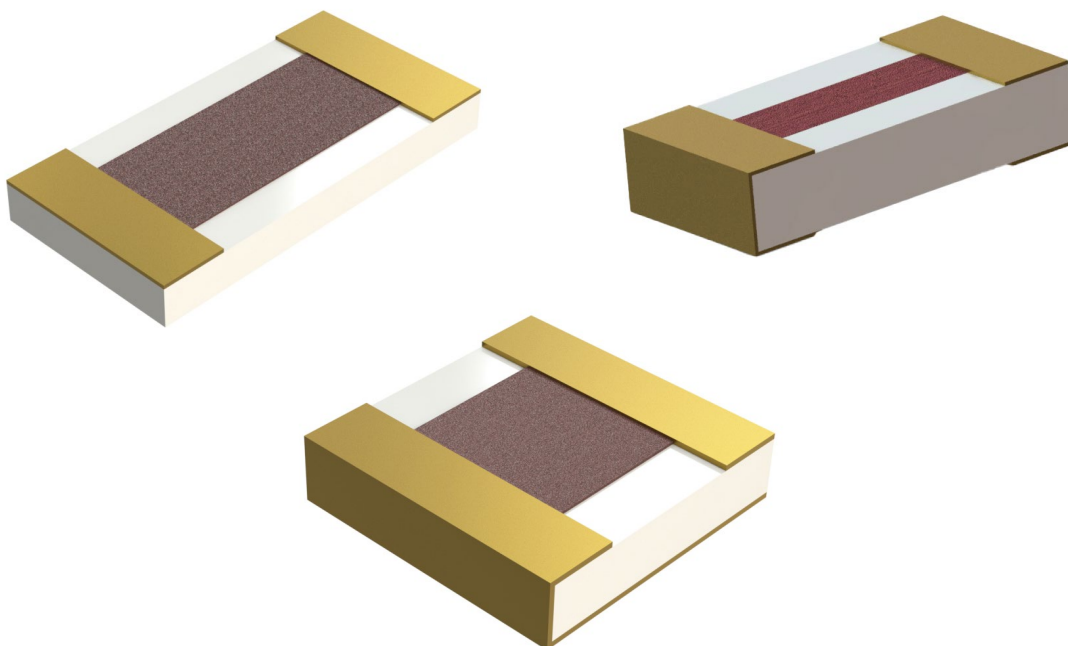
Frequency	Up to 12.4 GHz
Power	10W (DC to 4 GHz), 5W (DC to 10 GHz), 3W (DC to 12.4 GHz)
VSWR (max.)	1.25:1
Impedance	50 or 100 $\pm$ 2 Ohms
MIL-SPEC Standards	MIL-PRF-55342, MIL-PRF-55182, MIL-DTL-8833
Operating Temperatures	-55 to +125°C

### Provides robust reliability for challenging environments

The terminations are designed for temperature stability and with vibration- and shock-resistant SMT attachment, preventing failures and ensuring proper operation in harsh aerospace environments.

### Enables high-power, high-frequency use

High-efficiency energy transfer using a beryllium oxide (BeO) ceramic substrate supports high-power applications and high frequencies up to 12.4 GHz, avoiding the need for bulkier solutions and reducing thermal management challenges.



# Surface-Mount Chip Terminations >

## MARKETS AND APPLICATIONS

### Defense

Electronic warfare and transmit/receive modules  
Integrated microwave assemblies  
Phased-array radars

### Aerospace

Proximity warning systems  
Spacecraft and satellite systems  
Traffic collision avoidance systems

### MedTech

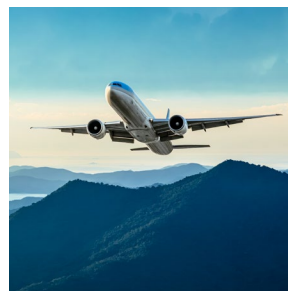
Magnetic resonance imaging (MRI)  
power electronics

### Wireless Communications

5G and distributed antenna system (DAS)  
repeaters/transmitters  
FM and TV signal transmitters  
High-power terminations for isolators  
and amplifiers  
In-building wireless infrastructure



*Electronic Warfare and Transmit/  
Receive Modules*



*Proximity Warning Systems*



*5G and DAS  
Repeaters/Transmitters*

## SPECIFICATIONS

### Reference Information

Packaging: Tape and reel or waffle-reel pack  
Designed in: Millimeters  
RoHS: Available  
Halogen Free: Yes  
MIL-SPEC Standards: MIL-PRF-55342,  
MIL-PRF-55182, MIL-DTL-8833

### Electrical

Frequency: Up to 12.4 GHz  
Power (max.):  
10W (DC to 4 GHz)  
5W (DC to 10 GHz)  
3W (DC to 12.4 GHz)  
VSWR (max.): 1.25:1  
VSWR (typical): 1.20:1  
Impedance: 50 and 100  $\pm$  2 Ohms  
Resistance Tolerance:  $\pm$  2%

### Mechanical

Package Style: Surface-mount technology chip  
(multiple footprints available)  
Length: 0.05" (1.3mm)  
Width:  
DC to 4 GHz, DC to 10 GHz: 0.05" (1.3mm)  
DC to 12.4 GHz: 0.025" (0.6mm)  
Height: 0.01" (0.3mm)  
Wrap: One-end wraparound

### Physical

Substrates: BeO ceramic, alumina or alumina nitride  
Resistor: Thin-film tantalum nitride  
Terminal: Gold-plated or tin lead solder  
Operating Temperatures: -55 to +125°C