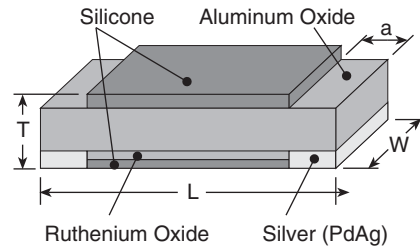


Ohmite's High Voltage Flip Chip Series incorporates high accuracy screen printing technology to achieve high voltage capability in a stable flip chip SMD chip resistor package. The HVF Series offers unmatched performance in comparison to standard chip resistors. Its unique design provides lower voltage and temperature coefficients, less noise, tighter tolerances, better stability, higher resistance values, and higher voltage ratings. HVF is available in convenient 1206 and 2512 footprints.

# HVF Series

## High Voltage Flip Chip Film



### FEATURES

- High voltage up to 3,000 volts
- Industry standard sizes
- Working temperature range -55°C to 200°C
- Designed for automatic insertion
- Non-magnetic construction

### SPECIFICATIONS

**Resistance Range:**  
1KΩ to 100GΩ

**Resistance Tolerance:** ±1% std.; 5% for HVF1206 100MΩ-10GΩ more; 10% for 10GΩ+

**Temperature Coefficient:**  
±100ppm std.

**Coating:** Silicone

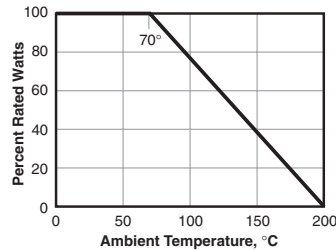
**Solder Pad Material:** Silver (PdAg)

**Note:** HVF Series should not be used with tin-lead based solder compositions. Only silver-based solder compositions are recommended. Care should be taken in the selection of the solder flux contained in the solder paste. Some pastes are "corrosive" and can damage the coating and also the resistive layer during the soldering process at high temperature. PCBs must be properly cleaned to remove any layers of moisture containing halides below the resistor.

We recommend Halide Free (or Halogen Free) solder pastes, containing for example ROL0 or similar.

It is advisable for the PCB layout to provide a slot, or air gap, underneath the downward facing resistor element, thereby increasing insulation resistance and reducing the possibility of capacitive coupling to the PCB. Under no circumstances should any copper trace be present in the layout directly under the resistive element.

### DERATING



### VOLTAGE COEFFICIENT OF RESISTANCE

Series	Resistance Range	VCR (-ppm/V)*
1206	1K ..10MΩ	<3.20
	10M ..100MΩ	<15.00
	100M ..1GΩ	<29.00
	1GΩ .. 5GΩ	<40.00
2512	1K ..30MΩ	<0.80
	30M ..300MΩ	<4.00
	300M ..3GΩ	<7.00
	3GΩ .. 5GΩ	<10.00

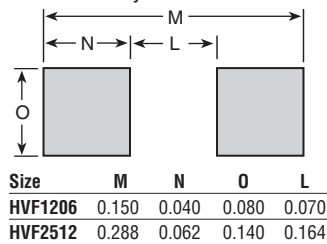
\*Typical values. Voltage coefficient of resistance strongly depends on the resistance value. Contact Ohmite for details.

### STANDARD PART NUMBERS FOR HVF

Ohms	HVF1206---	HVF2512---
25K	---T2502FE	---T2502FE
50K	---T5002FE	---T5002FE
75K	---T7502FE	---T7502FE
100K	---T1003FE	---T1003FE
250K	---T2503FE	---T2503FE
500K	---T5003FE	---T5003FE
1000K	---T1004FE	---T1004FE
1500K	---T1504FE	---T1504FE
2000K	---T2004FE	---T2004FE
2500K	---T2504FE	---T2504FE
5000K	---T5004FE	---T5004FE
7500K	---T7504FE	---T7504FE
1G	---T1007JE	---T1007FE
		---T5007FE
10G	---T1008JE	

### LAND PATTERN (in.)

Land pattern dimensions are for reference only



Series	Resistance Range	Tol.	Power Rating (mW)	Voltage Rating*	L	W	a	T (max.)	Std. Qty./Reel**
HVF1206	1K-100M	1% std.	300	1,500	0.128	0.063	0.018	0.028	1000
	100M-10G	5%							
	10G-100G	10%							
HVF2512	1K-100G	1% std.	1000	3,000	0.252	0.126	0.026	0.032	1000

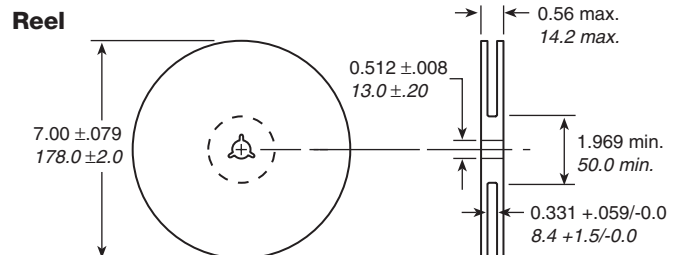
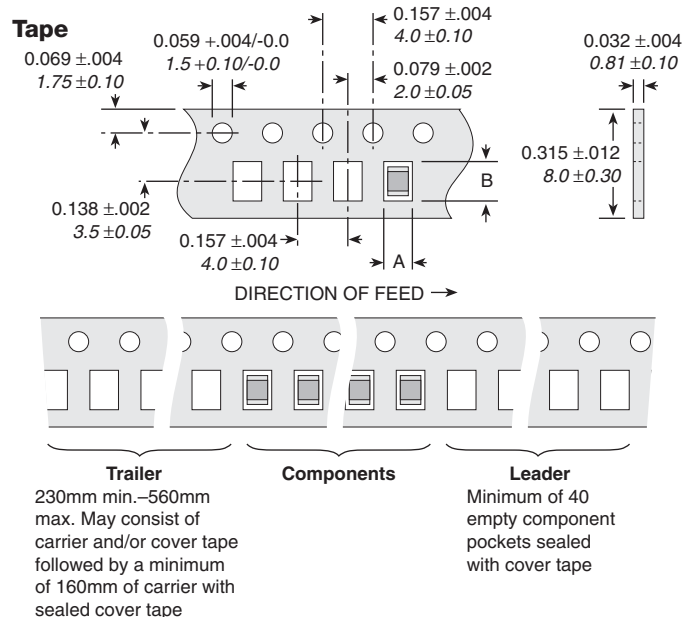
\*Use Ohm's Law ( $V = \sqrt{P \cdot R}$ ) to calculate maximum working voltage.  
\*\*Maximum available quantity per reel is 3,500 for 1206 size and 2,000 for 2512 size; call 1-866-9-OHMITE for details.

### PERFORMANCE DATA

Insulation Resistance	>10,000 MΩ	500 Volt 25 °C 75% relative humidity
Dielectric Strength	>1,000 Volt	25 °C 75% relative humidity
Thermal Shock	$\Delta R/R < 0.1\%$ typ., 0.50% max.	MIL Std. 202, method 107 Cond. C (IEC 68 -2 -14)
Overload	$\Delta R/R < 0.1\%$ typ., 0.50% max.	1.5 x Pnom, 5 sec (do not exceed max. voltage)
Moisture Resistance	$\Delta R/R < 0.1\%$ typ., 0.50% max.	MIL Std. 202, method 106 (IEC 68 -2 -3)
Load Life	$\Delta R/R < 0.1\%$ typ., 0.50% max.	1000 hours at rated power (IEC 115 -1)

### TAPE AND REEL SPECIFICATIONS

Per EIA Std. RS-481



### ORDERING INFORMATION

RoHS Compliant

Taping Code  
blank = bulk package  
T = tape & reel

**HVF1206T1004JET**

High Voltage Flip Chip Series	Case Size 1206 2512	TCR T = 100 ppm V = 50 ppm	Ohms First 3 digits are significant; last digit specifies number of zeros to follow. Example: 1006 = 100MΩ	Tolerance F = 1% G = 2% J = 5%
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\*Not available for all resistance values; consult factory