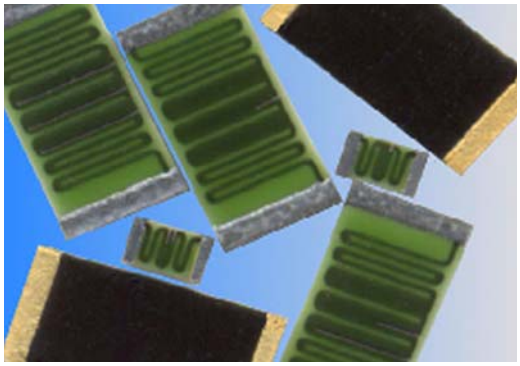
HVCB Series — High Voltage Thick Film Chip Resistors

SEI

Features

- Absolute voltage ratings up to 25,000 volts
- Ohmic values to 10G; higher values possible
- Available with wire bondable terminations
- Tight tolerances to 0.5%
- Utilizes fine film resistor deposition technology
- Superior pulse handling capabilities
- Low TCR to 25 ppm/°C
- Low VCR to 1 ppm/volt
- Very low noise
- Ultra high stability
- Custom sizes available
- RoHS compliant / lead-free



Electrical Specifications

Type	Package Type	Power Rating[3] (Watts) @ 70°C	Maximum Working Voltage[1]	Absolute Maximum Voltage[2]	Resistance Temperature Coefficient	Ohmic Range and Tolerance			
						0.5%	1%	5%	10%
HVCB 0603	0603	0.100W	400V	5KV	±25 ppm/°C ±50 ppm/°C ±100 ppm/°C ±200 ppm/°C	–	100K – 1M 100K – 250M 10K – 250M 1K – 1G	100K – 1M 100K – 250M 10K – 250M 1K – 1G	100K – 1M 100K – 250M 10K – 250M 1K – 10G
HVCB 0805	0805	0.125W	600V	10KV	±50 ppm/°C ±100 ppm/°C ±200 ppm/°C	–	100K – 250M 10K – 250M 1K – 1G	100K – 250M 10K – 250M 1K – 1G	100K – 250M 10K – 250M 1K – 10G
HVCB 1206	1206	0.250W	1,200V	15KV	±25 ppm/°C ±50 ppm/°C ±100 ppm/°C ±200 ppm/°C	100K – 1M 100K – 250M 10K – 250M 1K – 250M	100K – 1M 100K – 250M 10K – 250M 1K – 1G	100K – 1M 100K – 250M 10K – 250M 1K – 1G	100K – 1M 100K – 250M 10K – 250M 1K – 10G
HVCB 2010	2010	0.750W	1,700V	20KV	±25 ppm/°C ±50 ppm/°C ±100 ppm/°C ±200 ppm/°C	100K – 1M 100K – 250M 10K – 250M 10K – 250M	100K – 1M 100K – 250M 10K – 250M 10K – 1G	100K – 1M 100K – 250M 10K – 250M 10K – 1G	100K – 1M 100K – 250M 10K – 250M 10K – 10G
HVCB 2512	2512	1.000W	2,500V	25KV	±25 ppm/°C ±50 ppm/°C ±100 ppm/°C ±200 ppm/°C	100K – 1M 100K – 250M 10K – 250M 10K – 250M	100K – 1M 100K – 250M 10K – 250M 10K – 1G	100K – 1M 100K – 250M 10K – 250M 10K – 1G	100K – 1M 100K – 250M 10K – 250M 10K – 10G

[1]The continuous maximum voltage applied cannot exceed the maximum power rating and is ohmic value dependent.
[2]To achieve, the terminals must be properly isolated from each other with appropriate potting material
[3]Contact factory for higher power ratings:

0805: 0.2W 1206: 0.33W 2010: 1W 2512: 2W

Note: Other case sizes and tolerances are available.

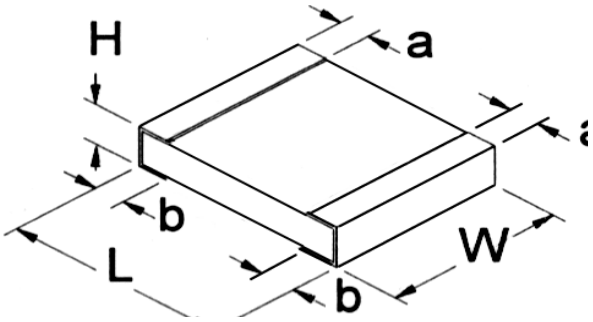
How to Order

HVCB	1206	T2	100M	5%	R
SEI Type	Size	TCR	Nominal Resistance	Tolerance	Packaging

TCR
T0 = 200ppm
T1 = 100ppm
T2 = 50ppm
T9 = 25ppm

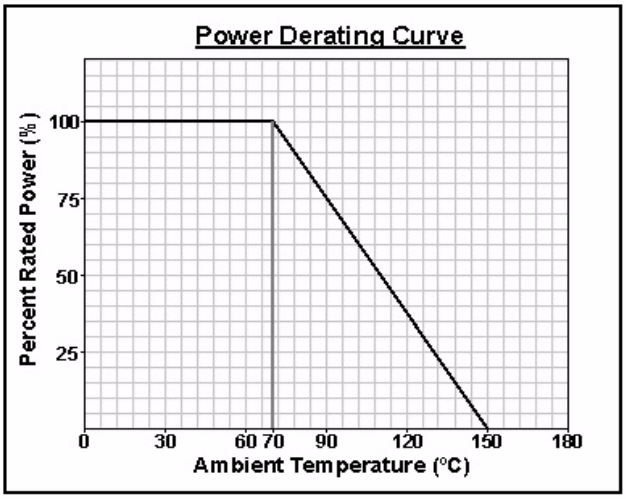
Tolerance
± 0.50
± 1.00
± 5.00
± 10.00

SEI Types	Pkg Qty	Description	Code
0603, 0805, 1206	5,000	7" reel - Paper	R
	10,000	10" reel - Paper	G
	1,000	Bulk	A
2010, 2512	4,000	7" reel - Emboss	R



Mechanical Specifications

Type	L Body Length	W Body Width	H Body Height	a Top Termination	b Bottom Termination	Units
HVCB 0603	0.063 + 0.01/-0.005 1.60 + 0.25/-0.13	0.031 ± 0.005 0.80 ± 0.13	0.020 0.50	0.010 + 0.01/-0.005 0.25 + 0.25/-0.13	0.010 + 0.01/-0.005 0.25 + 0.25/-0.13	inches mm
HVCB 0805	0.079 + 0.01/-0.005 2.00 + 0.25/-0.13	0.050 ± 0.005 1.25 ± 0.13	0.025 0.64	0.010 + 0.01/-0.005 0.25 + 0.25/-0.13	0.010 + 0.01/-0.005 0.25 + 0.25/-0.13	inches mm
HVCB 1206	0.126 + 0.01/-0.005 3.20 + 0.25/-0.13	0.061 ± 0.007 1.5 ± 0.18	0.030 0.76	0.015 + 0.01/-0.005 0.38 + 0.25/-0.13	0.015 + 0.01/-0.005 0.38 + 0.25/-0.13	inches mm
HVCB 2010	0.200 + 0.01/-0.005 5.08 + 0.25/-0.13	0.100 ± 0.005 2.54 ± 0.13	0.030 0.76	0.020 + 0.01/-0.005 0.51 + 0.25/-0.13	0.020 + 0.01/-0.005 0.51 + 0.25/-0.13	inches mm
HVCB 2512	0.250 + 0.01/-0.005 6.35 + 0.25/-0.13	0.125 ± 0.005 3.18 ± 0.13	0.030 0.76	0.020 + 0.01/-0.005 0.51 + 0.25/-0.13	0.020 + 0.01/-0.005 0.51 + 0.25/-0.13	inches mm



Performance Characteristics

Test	Test Method	Acceptable Parameter
Load Life	MIL-STD-202G Method 108A Test Condition D	ΔR = ± 2%
Temperature Cycle (Thermal Shock)	MIL-STD-202G Method 107G Test Condition A	ΔR = ± 0.02%
Resistance to Soldering Heat	IPC/EIA J-STD-002A Paragraph 4.2.4	IPC/EIA J-STD-002A Paragraph 4.2.4.4
Solderability	IPC/EIA J-STD-002A Paragraph 4.2.2	IPC/EIA J-STD-002A Paragraph 4.2.2.4.2
Short Time Overload	MIL-PRF-55342H Pg.32, Paragraph 4.8.6	MIL-PRF-55342H Pg.11, Paragraph 3.12

Operating Temperature Range : -55°C to +150°C