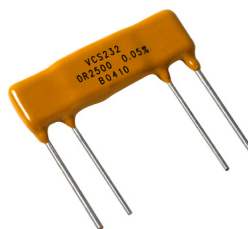
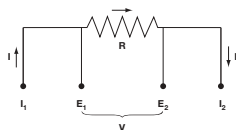


Ultra High Precision Foil Power Current Sensing Resistor

with Absolute TCR of ± 2 ppm/°C, ESD Immunity up to 25 kV
and Tolerance of $\pm 0.02\%$, Power Rating up to 2 W

FEATURES

- Temperature coefficient of resistance (TCR):
 ± 2 ppm/°C typical (-55°C to $+125^\circ\text{C}$, $+25^\circ\text{C}$ ref.)
- Power rating at $+25^\circ\text{C}$: 2 W (free air)
- Tolerance: to $\pm 0.02\%$
- Load life stability: to $\pm 0.01\%$,
 25°C for 2000 h at rated power
- Maximum current: 3 A
- Resistance range: $0.2\ \Omega$ to $500\ \Omega$
- Short time overload $\leq 0.005\%$



Pb-free
Available
RoHS*
COMPLIANT

Tolerance and TCR

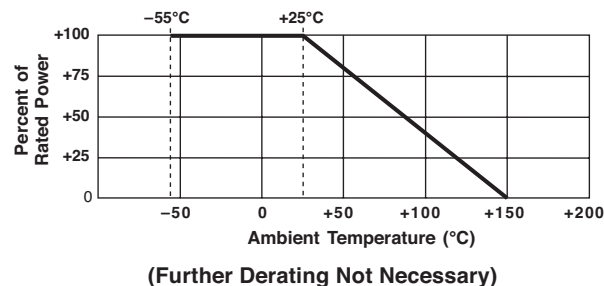
RESISTANCE RANGE (Ω)	TIGHTEST RESISTANCE TOLERANCE (%)	TYPICAL TCR AND MAX. SPREAD (ppm/°C) ⁽¹⁾
0.2 to <1.0	± 0.05	$\pm 2 \pm 13$
>1 to 10	± 0.05	$\pm 2 \pm 3$
>10 to 500	± 0.02	$\pm 2 \pm 3$

Notes

⁽¹⁾ -55°C to $+125^\circ\text{C}$, $+25^\circ\text{C}$ ref.

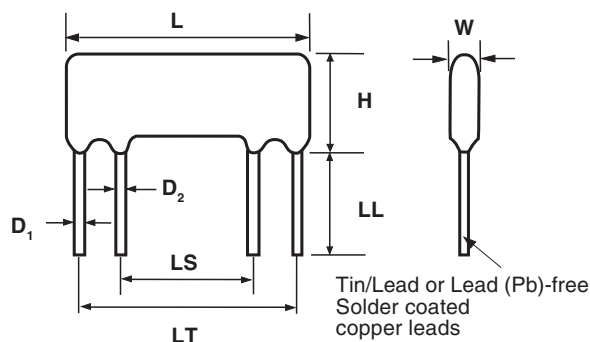
Contact applications engineering for other available values

Power Derating Curve



VCS232 Performance Specifications

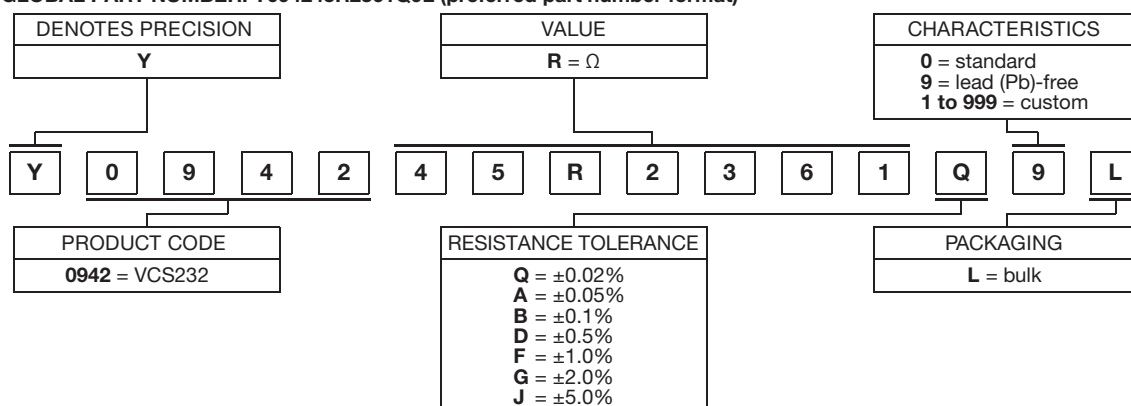
TEST (Conditions per MIL-PRF-49465)	CONDITIONS	MIL-PRF-49465B ΔR LIMITS	TYPICAL ΔR LIMITS	MAXIMUM ΔR LIMITS
Thermal Shock	-55°C to $+125^\circ\text{C}$, 5 cycles	$\pm(0.5\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Short Time Overload	5 × rated power for 5 s	$\pm(0.5\%+0.0005R)$	$\pm 0.005\%$	$\pm 0.01\%$
Resistance to Soldering Heat	10 s to 12 s at $+260^\circ\text{C}$	$\pm(0.25\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Terminal Strength	Pull test at 5 lb	$\pm(1.0\%+0.0005R)$	$\pm 0.002\%$	$\pm 0.005\%$
High Temperature Exposure	2000 h, $+150^\circ\text{C}$	$\pm(1.0\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Low Temperature Storage	MIL-PRF-49465, 24 h at -55°C	$\pm(0.5\%+0.0005R)$	$\pm 0.002\%$	$\pm 0.005\%$
Moisture Resistance	MIL-STD-202, method 106, $+65^\circ\text{C}$ to -10°C , 90% to 98% RH, rated power, 240 h	$\pm(0.5\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Shock (Specified Pulse)	100 g, 6 ms	$\pm(0.1\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Vibration (High Frequency)	(10 Hz to 2000 Hz) 20 g	$\pm(0.1\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Load Life Stability	2000 h, $+25^\circ\text{C}$ at rated power	$\pm(1.0\%+0.0005R)$	$\pm 0.01\%$	$\pm 0.02\%$
Solderability	MIL-STD-202	95% coverage	—	—

Dimensions in inches (millimeters)

MODEL	L MAX.	H MAX.	W MAX.	LL MIN.	LS ±0.20 (±0.5)	LT ±0.20 (±0.5)	D ₁ NOM.	D ₂ NOM.
VCS232	1.240 (31.50)	0.512 (13.00)	0.177 (4.50)	0.500 (12.70)	0.688 (17.48)	1.083 (27.51)	0.040 (1.02)	0.032 (0.81)

Global Part Number Information⁽¹⁾

NEW GLOBAL PART NUMBER: Y094245R2361Q9L (preferred part number format)



FOR EXAMPLE: ABOVE GLOBAL ORDER Y0942 45R2361 Q 9 L:

TYPE: VCS232

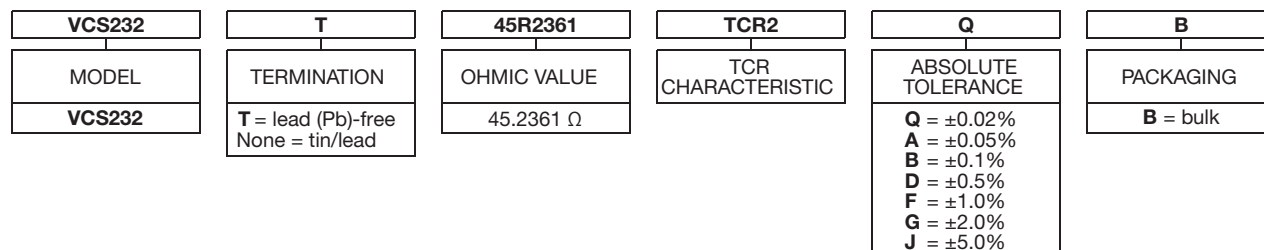
VALUES: 45.2361 Ω

ABSOLUTE TOLERANCE: ±0.02%

TERMINATION: lead (Pb)-free

PACKAGING: bulk pack

HISTORICAL PART NUMBER: VCS232T 45R2361 TCR2 Q B (will continue to be used)

**Note**⁽¹⁾ For non-standard requests, please contact application engineering.