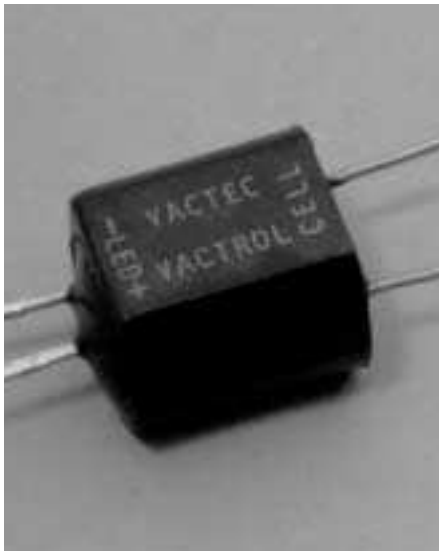
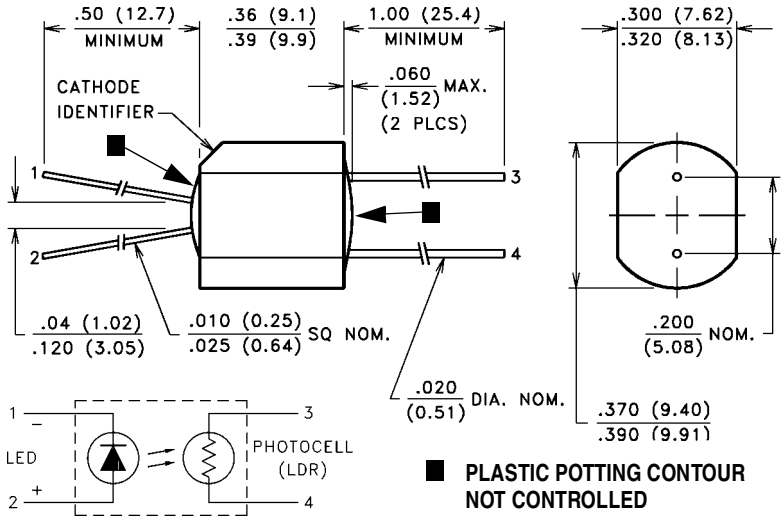
Low Cost Axial Vactrols

VTL5C6, 5C7



PACKAGE DIMENSIONS INCH (MM)



DESCRIPTION

VTL5C6 has a large dynamic range, high dark resistance, a low temperature coeffecient of resistance, and a small light history memory. VTL5C7 is a shallow sloped device with good dynamic range, average temperature coefficient of resistance, speed of response, and light history memory.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Maximum Temperatures
Storage and Operating: –40°C to 75°C
Cell Power: 175 mW
Derate above 30°C: 3.9 mW/°C
LED Current: 40 mA [1]
Derate above 30°C: 0.9 mA/°C

LED Reverse Breakdown Voltage: 3.0 V

LED Forward Voltage Drop @ 20 mA: 2.0V (1.65V Typ.)

Min. Isolation Voltage @ 70% Rel. Humidity: 2500 VRMS

Output Cell Capacitance: 5.0 pF

Cell Voltage: 250V (VTL5C6), 50V (VTL5C7)

Input - Output Coupling Capacitance: 0.5 pF

ELECTRO-OPTICAL CHARCTERISTICS @ 25°C

Part Number	Material Type	ON Resistance [2]		OFF [3] Resistance @ 10 sec. (Min.)	Slope (Typ.) @ 0.5 mA / R @ 5 mA	Dynamic Range (Typ.) R_{DARK} / R @ 20 mA	Response Time [4]		
		Input current	Dark Adapted (Typ.)				Turn-on to 63% Final R_{ON} (Typ.)	Turn-off (Decay) to (Max.)	
								1 MΩ	100 kΩ
VTL5C6	0	1 mA 10 mA 40 mA	75 kΩ 10 kΩ 2 kΩ	100 MΩ	16.7	88 db	3.5 ms	50 ms	
VTL5C7	7	0.4 mA 2 mA	5 kΩ 1.1 kΩ	1 MΩ	5.7	75 db	6.0 ms		1 sec

Refer to Specification Notes, page 41.

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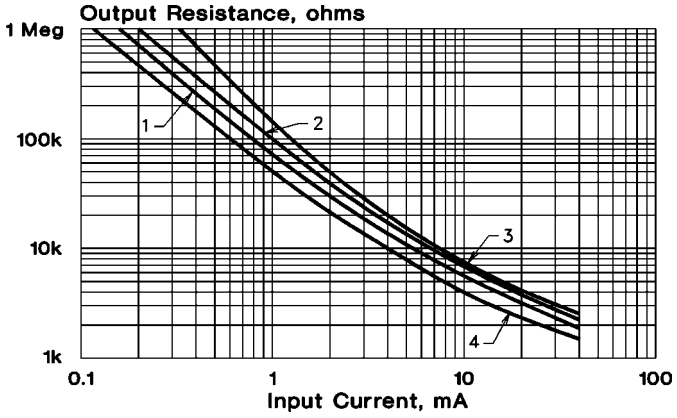
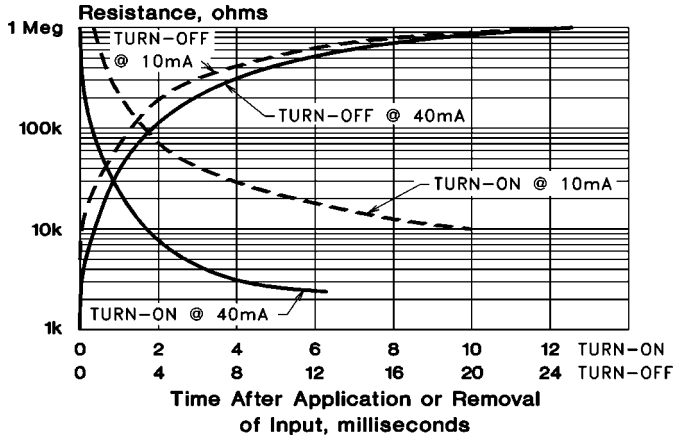
Typical Performance Curves

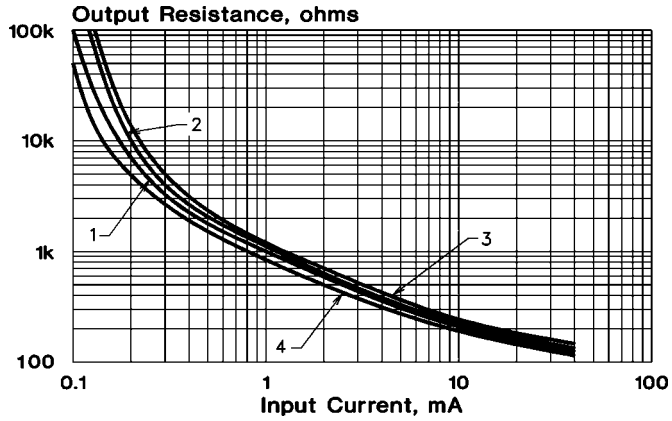
Output Resistance vs. Input Current
VTL5C6



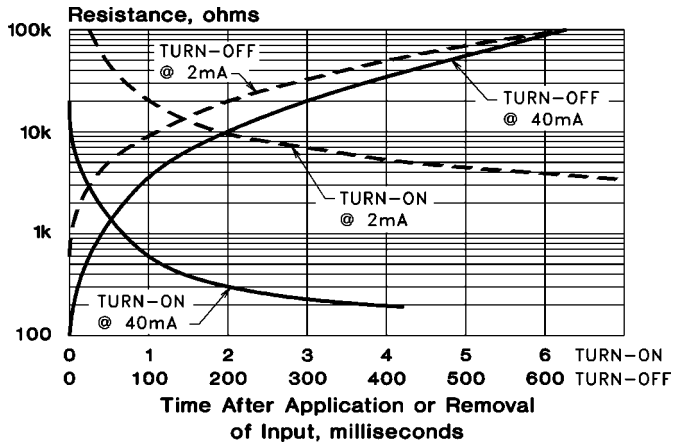
Response Time
VTL5C6



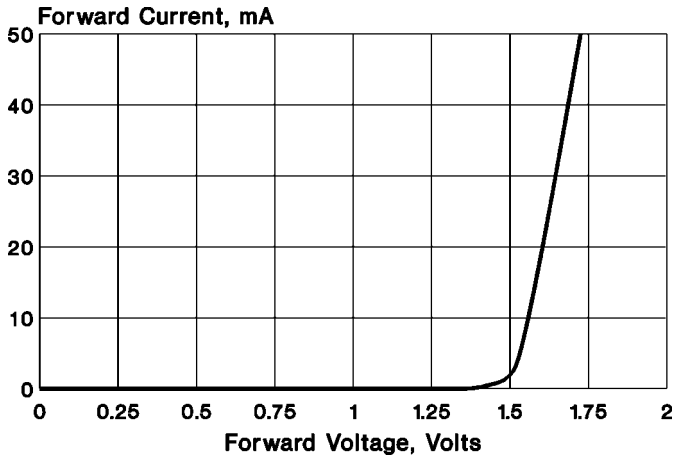
Output Resistance vs. Input Current
VTL5C7



Response Time
VTL5C7



Input Characteristics



Notes:

1. At 1.0 mA and below, units may have substantially higher resistance than shown in the typical curves. Consult factory if closely controlled characteristics are required at low input currents.
2. Output resistance vs input current transfer curves are given for the following light adapt conditions:

   (1) 25°C — 24 hours @ no input
   (2) 25°C — 24 hours @ 40 mA input
   (3) +50°C — 24 hours @ 40 mA input
   (4) –20°C — 24 hours @ 40 mA input

3. Response time characteristics are based upon test following adapt condition (2) above.