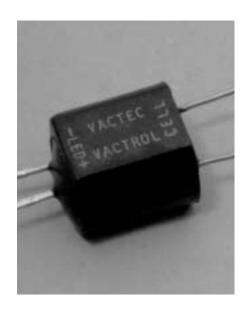
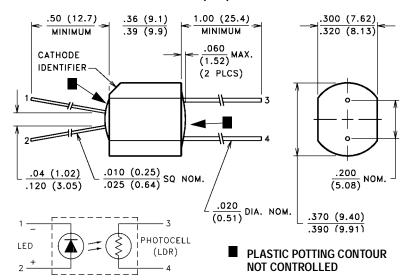
## **Low Cost Axial Vactrols**

# VTL5C1, 5C2



### PACKAGE DIMENSIONS inch (mm)



#### DESCRIPTION

VTL5C1 offers 100db dynamic range, fast response time, and very high dark resistance.

VTL5C2 features a very steep slope, low temperature coefficient of resistance, and a small light history memory.

#### **ABSOLUTE MAXIMUM RATINGS @ 25°C**

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

Storage and Operating: -40°C to 75°C

Cell Power: 175 mW Min. Isolation Voltage @ 70% Rel. Humidity: 2500 VRMS

Derate above 30°C:

LED Current:

40 mA 

Output Cell Capacitance:

Derate above 30°C: 0.9 mA/°C

Cell Voltage: 100V (VTL5C1), 200V (VTL5C2)

LED Reverse Breakdown Voltage: 3.0 V Input Output Counting Conseitance: 0.5 nF

Input - Output Coupling Capacitance: 0.5 pF

#### **ELECTRO-OPTICAL CHARCTERISTICS @ 25°C**

Part Number	Material Type	ON Resistance 2		OFF <b>9</b>	•	Dynamic Range	Response Time 4	
		Input current	Dark Adapted (Typ.)	OFF <b>3</b> Resistance @ 10 sec. (Min.)	(Typ.)  @ 0.5 mA  R@ 5 mA	(Typ.) $\frac{R_{DARK}}{R@ 20 mA}$	Turn-on to 63% Final R <sub>ON</sub> (Typ.)	Turn-off (Decay) to 100 kΩ (Max.)
VTL5C1	1	1 mA 10 mA 40 mA	20 kΩ 600 Ω 200 Ω	50 MΩ	15	100 db	2.5 ms	35 ms
VTL5C2	0	1 mA 10 mA 40 mA	5.5 kΩ 800 Ω 200 Ω	1 ΜΩ	24	69 db	3.5 ms	500 ms

Refer to Specification Notes, page 41.

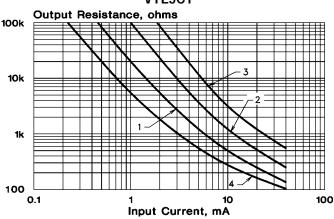
PerkinElmer Optoelectronics, 10900 Page Ave., St. Louis, MO 63132 USA

Phone: 314-423-4900 Fax: 314-423-3956 Web: www.perkinelmer.com/opto

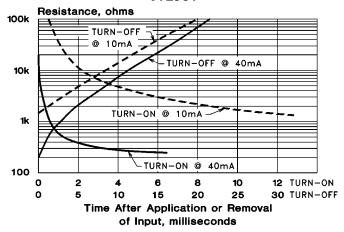
5.0 pF

# **Typical Performance Curves**

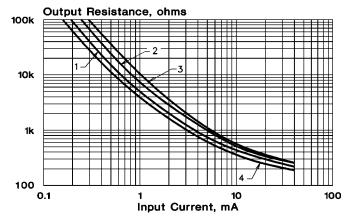
Output Resistance vs. Input Current VTL5C1



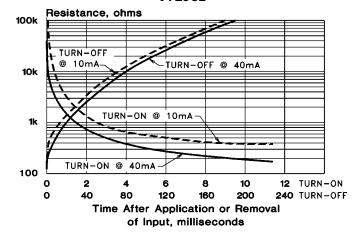
Response Time VTL5C1



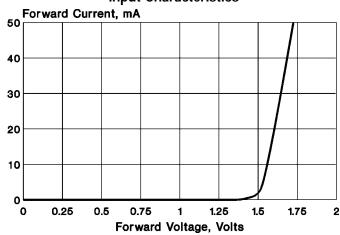
Output Resistance vs. Input Current VTL5C2



Response Time VTL5C2



#### **Input Characteristics**



#### Notes:

- 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)  $25^{\circ}\text{C} 24 \text{ hours } @ \text{ no input}$
  - (2) 25°C 24 hours @ 40 mA input
  - (3)  $+50^{\circ}\text{C} 24 \text{ hours } @ 40 \text{ mA input}$
  - (4)  $-20^{\circ}\text{C} 24 \text{ hours } @ 40 \text{ mA input}$
  - Response time characteristics are based upon test following adapt condition (2) above.

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