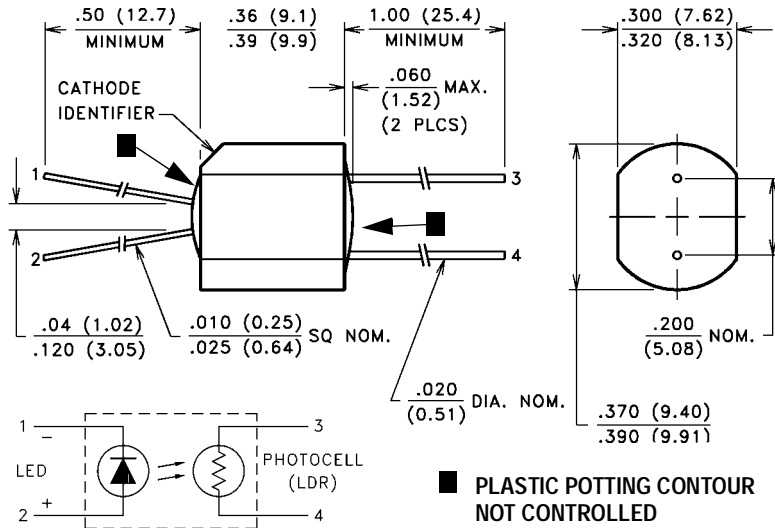


### PACKAGE DIMENSIONS inch (mm)



## 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	Min. Isolation Voltage @ 70% Rel. Humidity:	2500 VRMS
Cell Power:	175 mW	Output Cell Capacitance:	5.0 pF
Derate above 30°C:	3.9 mW/°C	Cell Voltage:	100V (VTL5C1), 200V (VTL5C2)
LED Current:	40 mA <b>1</b>	Input - Output Coupling Capacitance:	0.5 pF
Derate above 30°C:	0.9 mA/°C		
LED Reverse Breakdown Voltage:	3.0 V		

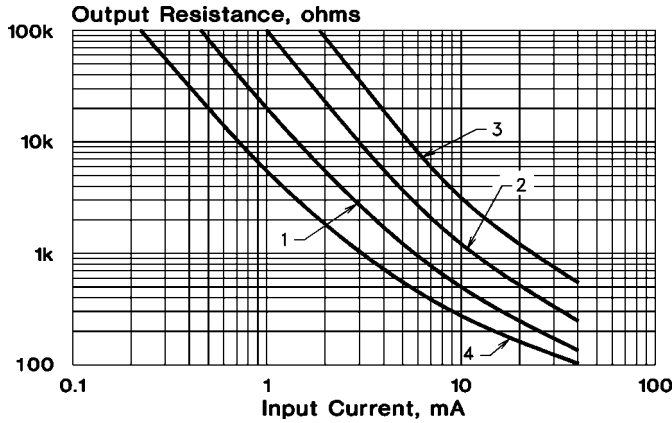
### ELECTRO-OPTICAL CHARACTERISTICS @ 25°C

Part Number	Material Type	ON Resistance <b>2</b>		OFF <b>3</b> Resistance @ 10 sec. (Min.)	Slope (Typ.) @ 0.5 mA / R @ 5 mA	Dynamic Range (Typ.) R <sub>DARK</sub> / R @ 20 mA	Response Time <b>4</b>	
		Input current	Dark Adapted (Typ.)				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 MΩ	24	69 db	3.5 ms	500 ms

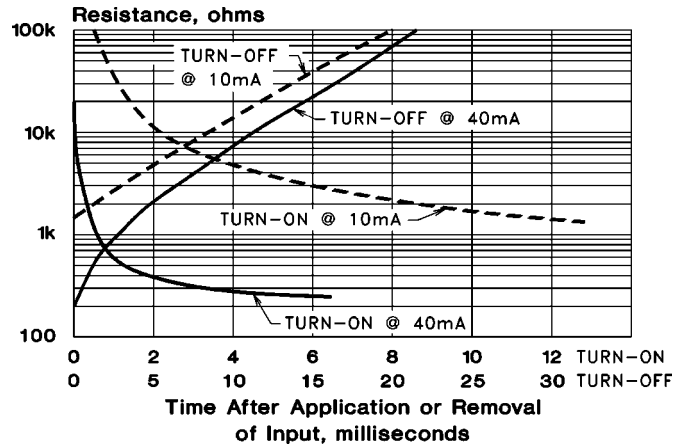
Refer to Specification Notes, page 41.

# Typical Performance Curves

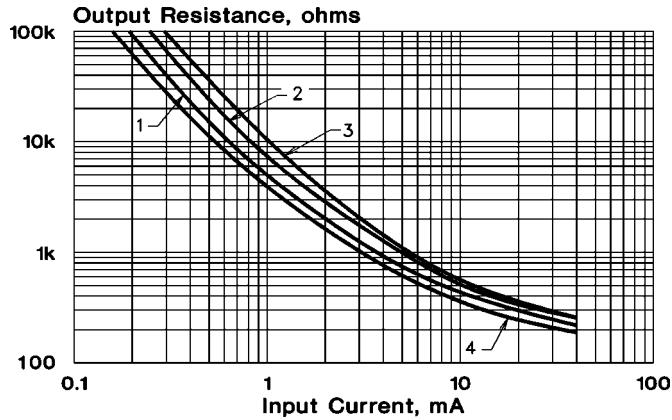
Output Resistance vs. Input Current  
VTL5C1



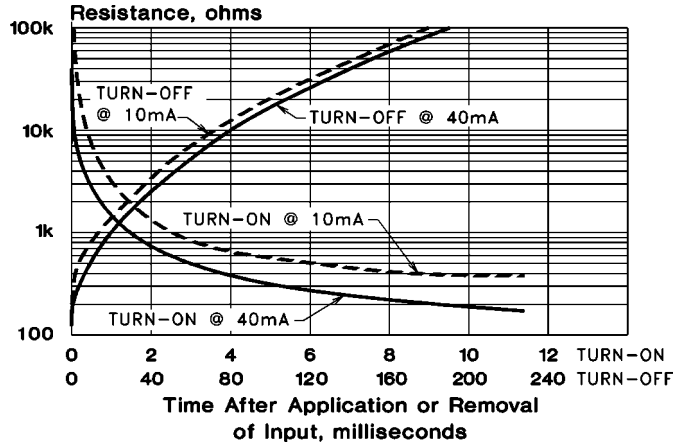
Response Time  
VTL5C1



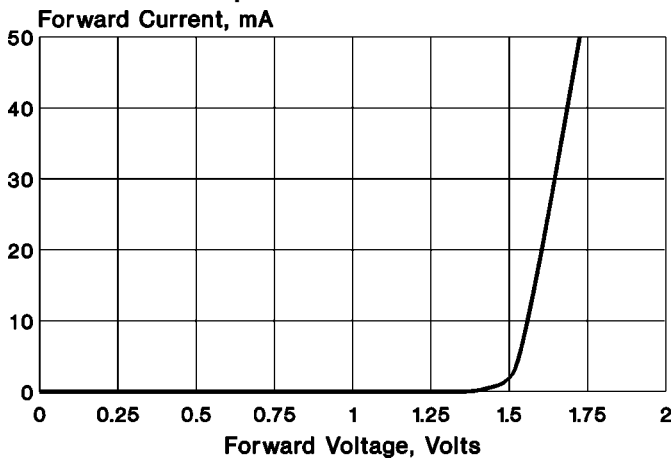
Output Resistance vs. Input Current  
VTL5C2



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.
- Output resistance vs input current transfer curves are given for the following light adapt conditions:
  - 25°C — 24 hours @ no input
  - 25°C — 24 hours @ 40 mA input
  - +50°C — 24 hours @ 40 mA input
  - 20°C — 24 hours @ 40 mA input
- Response time characteristics are based upon test following adapt condition (2) above.