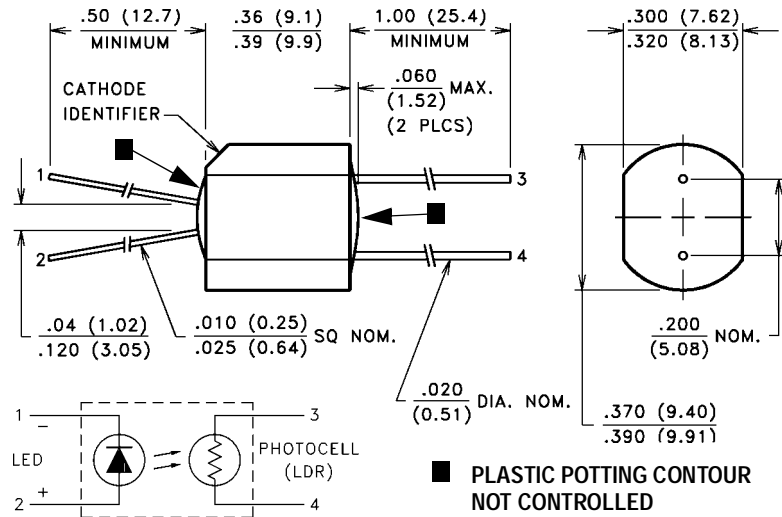


## PACKAGE DIMENSIONS INCH (MM)



## DESCRIPTION

VTL5C9 has a 112 db dynamic range, fast response time, high dark resistance, but with a more shallow slope and lower "on" resistance at low (1 mA) drive currents than the VTL5C1. VTL510 offers a low "on" resistance at low drive currents, a fast response time, and has a smaller temperature coefficient than the VTL5C9.

## ABSOLUTE MAXIMUM RATINGS @ 25°C

Maximum Temperatures		LED Forward Voltage Drop @ 20 mA:	2.8V (2.2V 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 (VTL5C9), 50V (VTL5C10)
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		

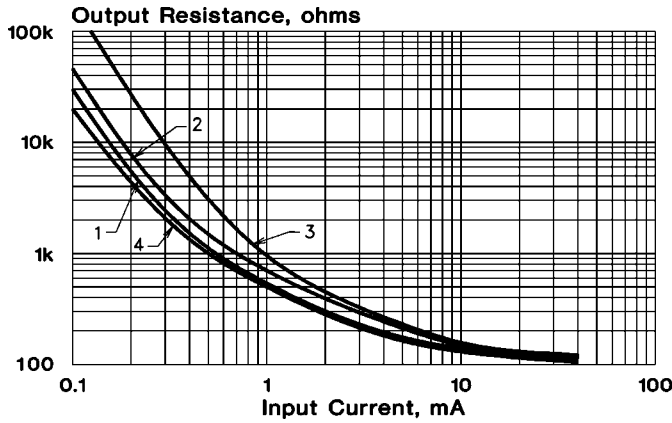
## ELECTRO-OPTICAL CHARACTERISTICS @ 25°C

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.) $\frac{R_{DARK}}{R @ 20 mA}$	Response Time <b>4</b>	
		Input current	Dark Adapted (Typ.)				Turn-on to 63% Final $R_{ON}$ (Typ.)	Turn-off (Decay) to 100 kΩ (Max.)
VTL5C9	1	2 mA	630 Ω	50 MΩ	7.3	112 db	4.0 ms	50 ms
VTL5C10	4	2 mA	400 Ω	400 KΩ	3.8	75 db	1.0 ms	1.5 sec

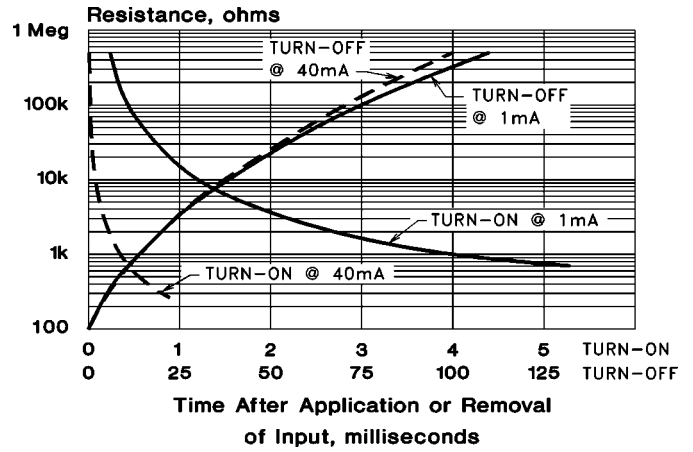
Refer to Specification Notes, page 41.

# Typical Performance Curves

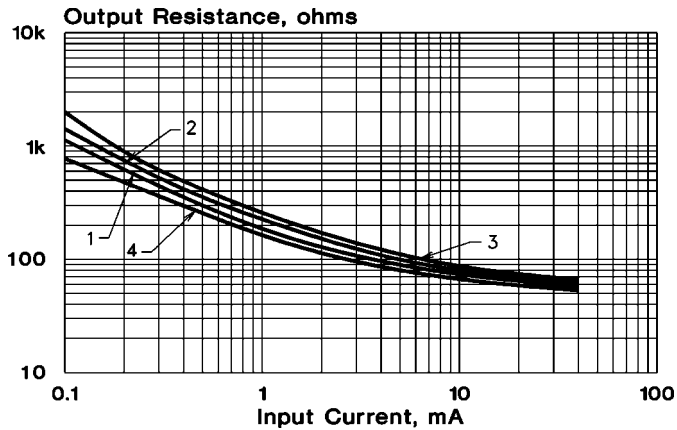
Output Resistance vs. Input Current  
VTL5C9



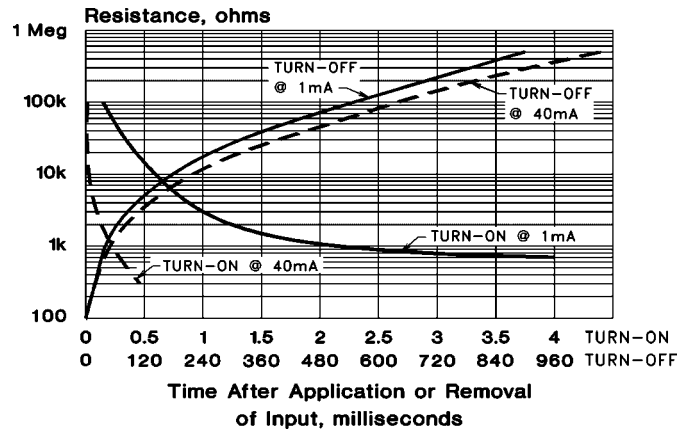
Response Time  
VTL5C9



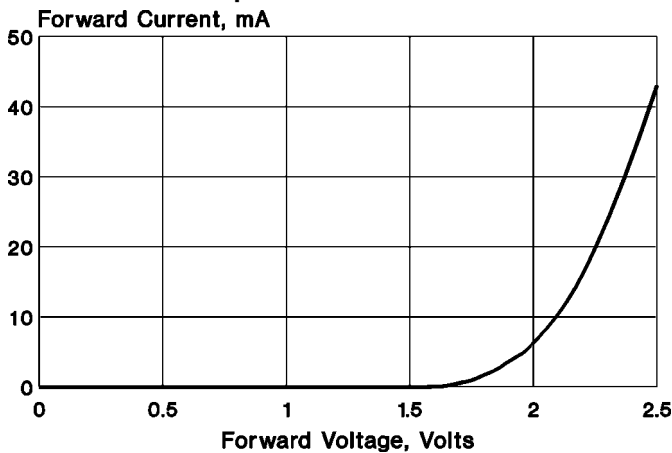
Output Resistance vs. Input Current  
VTL5C10



Response Time  
VTL5C10



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.