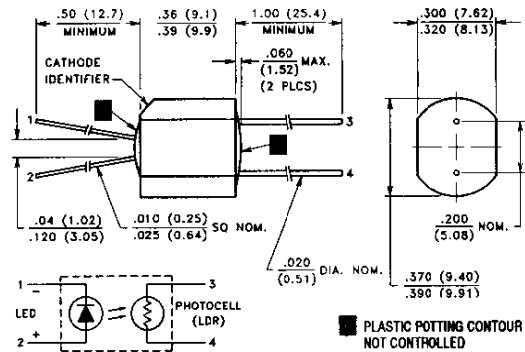


UL Listed File #738&7

PACKAGE DIMENSIONS Inch (mm)



DESCRIPTION

VTL5C1 offers 100 db 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
Storage and Operating: -40°C to 75°C

Cell Power: 175 mW
Derate above 30°C: 3.9 mW/°C

LED Current: 40 mA
Derate above 30°C: 0.9 mA/°C

LED Reverse Breakdown Voltage: 3.0 V

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

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

Output Cell Capacitance: 5.0 pF

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

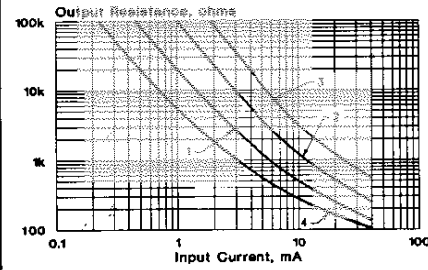
Input - Output Coupling Capacitance: 0.5 pF

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C

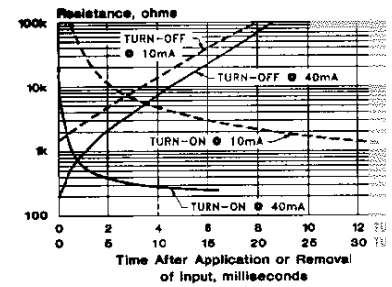
| Part Number | Material Type | Output Resistance | | | | | Response Time | | |
|-------------|---------------|------------------------|--------------------------|----------------------|---------------------------------|---------------------------------------|--|---------------------------------|-----------------------------------|
| | | ON Resistance | | | OFF Resistance @ 10 sec. (Min.) | Slope (Typ.) R @ .5 mA R @ 5 mA | Dynamic Range (Typ.) Range R @ 20 mA | Turn-on to 63% Final ROM (Typ.) | Turn-off (Decay) to 100 kΩ (Max.) |
| | | Input Current | Dark Adapted (Typ.) | Light Adapted (Max.) | | | | | |
| VTL5C1 | 1 | 1 mA 10 mA 40 mA | 20 kΩ 800 Ω 200 Ω | — — 500 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 | — — 500 Ω | 1 MΩ | 24 | 69 db | 3.5 ms | 500 ms |

Typical Performance Curves

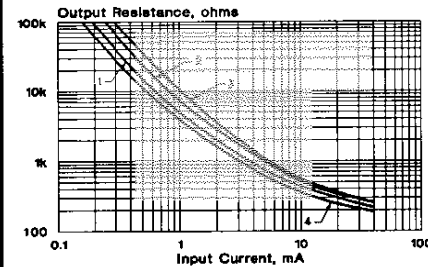
Output Resistance vs Input Current VTL5C1



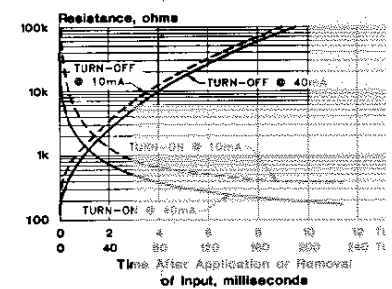
Response Time VTL5C1



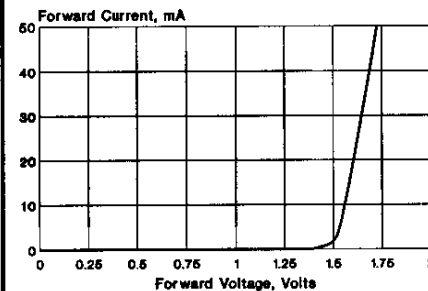
Output Resistance vs Input Current VTL5C2



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 or 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 the following adapt condition (2) above.