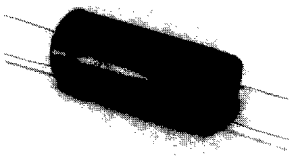
Low Cost – 12 V, 480 mW Incandescent Axial Vactrols

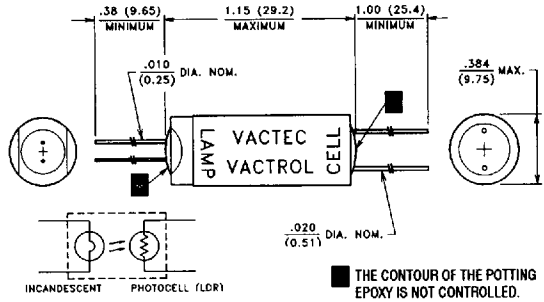
VTL3A17, 27, 37, 47



UL Listed File #E73887

Dual "center tap" element version is available for VTL3A37 and VTL3A47.

PACKAGE DIMENSIONS inch (mm)



DESCRIPTION

VTL3A17 offers low "on" resistance and the fastest speed of response of any 12 V AOI in the VTL3Ax7 series. VTL3A27 offers a much smaller temperature coefficient of resistance and less light history memory, but at the expense of "on" resistance.

VTL3A37 has the smallest temperature coefficient and light history memory, but has the highest relative "on" resistance. VTL3A47 offers the lowest "on" resistance, good speed, and smaller temperature coefficient, with a lower light history memory than the VTL3A17.

ABSOLUTE MAXIMUM RATINGS @ 25°C

Maximum Temperatures
Storage and Operating: -40°C to 75°C

Case Power Dissipation: 550 mW

Min. Isolation Voltage: 2500 V pk, 60 Hz

Cell Power: 175 mW
Derate above 25°C: 3.5 mW/ °C
Derate 0.2 mW/mW of total case power dissipation

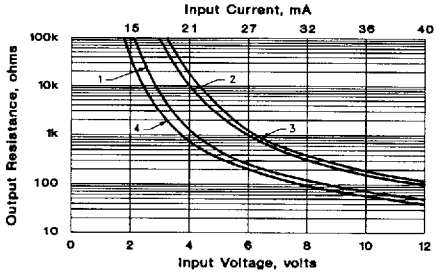
Cell Voltage: 100 V (VTL3A17 & 3A47), 200 V (VTL3A27), 250 V (VTL3A37) [11]

ELECTRO-OPTICAL CHARACTERISTICS @ 25°C

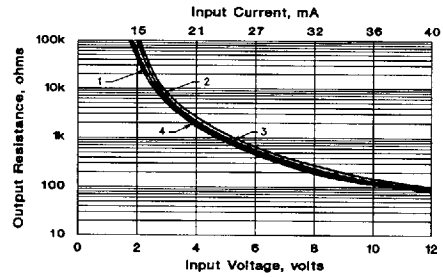
Part Number	Material Type	Output Resistance [12]					Response Time [13]	
		ON Resistance				OFF Resistance (Min.)	Ascent to 63% of Final R_{ON} (Typ.)	Decay to 100 kΩ (Max.)
		Lamp Input [14]		Dark Adapted (Typ.)	Light Adapted (Max.)			
		Voltage	Current					
VTL3A17	1	12 V	40 mA	50 Ω	160 Ω	50 MΩ	25 ms	150 ms
VTL3A27	0	12 V	40 mA	90 Ω	150 Ω	1 MΩ	80 ms	400 ms
VTL3A37	3	12 V	40 mA	150 Ω	300 Ω	10 MΩ	50 ms	150 ms
VTL3A47	4	12 V	40 mA	25 Ω	40 Ω	1 MΩ	25 ms	900 ms

Typical Performance Curves

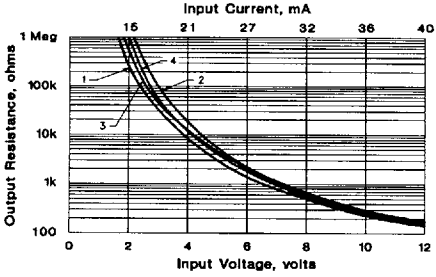
Output Resistance vs Input Voltage VTL3A17



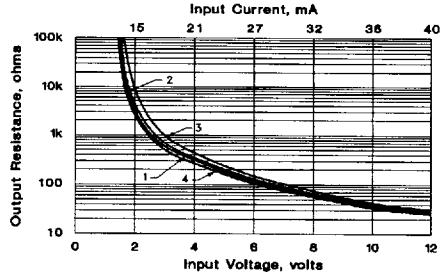
Output Resistance vs Input Voltage VTL3A27



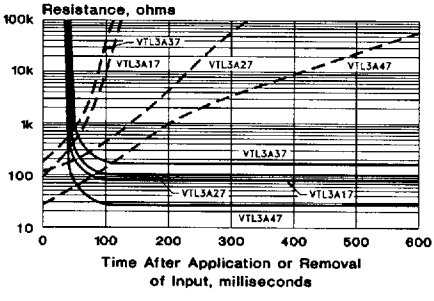
Output Resistance vs Input Voltage VTL3A37



Output Resistance vs Input Voltage VTL3A47



Response Time (Note 5) VTL3Ax7



Notes:

1. Please consult Vactec if closely controlled transfer characteristics are required over a range of input conditions.
2. Output resistance or input current transfer curves are given for the following adapt conditions:
   (1) 25°C — 24 hours @ no input
   (2) 25°C — 24 hours @ rated input
   (3) +50°C — 24 hours @ rated input
   (4) −20°C — 24 hours @ rated input
3. Response time characteristics are based upon test following adapt condition (2) above.
4. Turn-on times are reduced approximately 25-30 ms for rapid re-application of lamp voltage.
5. Turn-on times shown in solid lines, turn-off times are dashed lines.