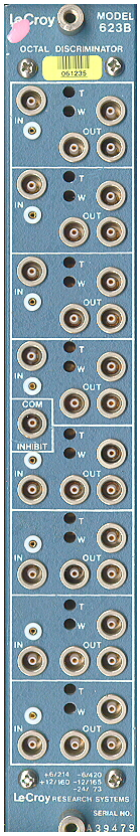

NIM Model 623B Octal Updating Discriminator

With Inhibit

The Model 623B is a low cost eight channel discriminator featuring high-sensitivity, high-speed, updating performance. A Common Inhibit adds to the versatility of the Model 623B which may be used as an enable for pulsed-mode applications. This discriminator, based upon the proven popular Model 623, offers high density eco- nomically.

The minimum threshold of the Model 623B is -30 mV, variable up to -1 V via front- panel screwdriver adjustment. A monitor point is provided to permit measurement of the threshold level with a voltmeter rather than the more difficult and less precise analog measurement via oscilloscope. The stability of the threshold is <0.2%/'C, assuring accurate results even in varied operating environments. Because of the extremely low reflections from its input (4%), the 623B is significantly better protected against the multiple-pulsing due to reflections at -30 mV.

The Model 623B operates at maximum rates in excess of 100 MHz. Its updating design permits retriggering even while an output from a previous input is still present. At minimum output width setting the 623B will respond to a second pulse within 9 nsec of the leading edge of the first pulse. Propagation delay through the 623B is approximately 11 nsec.

The outputs of the 623B are low impedance voltage outputs, providing output levels greater than -800 mV into a 50 Ohm load. The output durations may be independently set via front-panel screwdriver adjustment from <6 nsec to >150 nsec. Output risetimes are typically 2.1 nsec. Output falltimes increase with output width from approximately 4 nsec at short widths to approximately 7% of the output width at maximum.

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   SPECIFICATIONS
    NIM Model 623B
OCTAL UPDATING DISCRIMINATOR WITH INHIBIT

SIGNAL INPUT CHARACTERISTICS

Individual Signal:
Threshold:  -30 mV to approximately -1.0 volt; front-panel screwdriver adjust (screw-
  driver included).

Impedance:  50 Ohm +/- 1%, protected to +/-5A for 0.5 Asec clamping at +1 and -7 volts.

Reflections:  <4% for input pulses of 2 nsec risetime.

Stability:  <0.2%/'C, 20'C to 60'C operating range.

Offset:  0 +/- 1 mv.

Threshold Monitor:  10:1 ratio of monitor voltage to actual voltage.

Common Inhibit:
Input:  Accepts NIM standard inputs. -600 mV disables all channels.

Impedance:  50 Ohm +/- 5%.

Timing:  NIM pulse must precede analog input by 6 nsec to inhibit. Minimum width 8
  nsec. Effective width 5 nsec less than NIM input width.


OUTPUT CHARACTERISICS

Amplitude:  3 NIM-level voltage outputs, quiescently 0 volts, -800 mV during output.

Duration:  <=6nsec to >150 nsec, continuously variable via front-panel screwdriver
  control.

Risetime:  Typically 2.1 nsec; maximum 2.5 nsec. At least 2 outputs should be termi-
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nated in 50 fl for optimum pulse shape.

Falltime: Approx. 4 nsec at minimum width, increasing with width setting up to 10 nsec max.

Width Stability: Maximum +/- (50 psec + 0.3%)/'C for temperature variation and +/-0.1%/% for variation of any supply voltage.

Amplitude Stability: Better than +/-0.1%/'C.

GENERAL

Maximum Rate: >100 MHz, input and output.

Double-Pulse Resolution: Less than 9 nsec.

Time Slewing: 1 nsec for input amplitudes 110% of threshold and above.

Input-Output Delay: 1 1 nsec.

Multiple-Pulsing: None; one and only one output pulse of preset duration is produced for each input pulse, regardless of input pulse amplitude or duration.

Bin Gate: Slow gate via rear connector and rear-panel ON-OFF switch; risetimes and falltimes approximately 50 nsec; clamp to ground from +5 volts inhibits; direct-coupled.

Packaging: In RF-shielded AEC/NIM #1 module; Lemo-type connectors.

Current Requirements: + 12 volts at 160 mA
+ 6 volts at 240 mA
- 6 volts at 490 mA
- 1 2 volts at 195 mA
-24 volts at 80 mA

Up to a higher level directory || For more information