

Frequency Detector, 2 GHz to 18 GHz, SMA, Video Out, +10 dBm max Pin

The SMD-0218-45-SMA is a High Speed, TTL Logic Output Adjustable Threshold Detector Designed to Operate from 2 to 18 GHz. This Detector incorporates additional gain stages for higher input dynamic range that covers from -45 to -20 dBm for operational performance, and has a fast response time of 45ns Max. The absolute maximum input power handling without damage is +10 dBm. The Rugged Compact Package Design utilizes field replaceable SMA Connectors, voltages and ground pins, and has a mechanically adjustable screw to set the threshold level. The TTL Video output pin supports a Field Replaceable SMA Connector. This module is designed to meet MIL-STD-202F Environmental Conditions that includes Humidity, Shock, and Vibration.

Electrical Specifications

Description	Min	Typ	Max	Unit
Frequency Range	2		18	GHz
Input Power (No Damage)			+10	dBm
Dynamic Range	-45		-20	dBm
Propagation Delay (from 50% Logic Output on Leading Edge for an input of -45 dBm)		10	20	ns
Propagation Delay (from 50% RF Input to 50% logic when input is -20 dBm)		10	20	ns
Response Time			45	ns
Detected Video Output TTL="1" on Video Out For Signals Above Threshold Setting TTL="0" on Video Out For Signals Below Threshold Setting		TTL		
DC Power Supply @ +12 Volts (No Load)			250	mA
DC Power Supply @ -12 Volts (No Load)			120	mA
Operating Temperature Range	-55		+85	deg C



Features:

- Ultra-High Speed Frequency Detector
- 2 GHz to 18 GHz Frequency Range
- Minimum Signal Level -45 dBm
- TTL Logic Output
- Propagation Delay 10 ns Typ
- Designed to meet MIL-STD-202F Environmental Conditions
- Fast Response Time 45 ns max
- Field Replaceable SMA Connectors

Applications:

- Electronic Warfare
- Test & Measurement
- System Monitoring
- AM Noise Measurements
- Military & Space
- Radar
- Pulsed RF Measurements in Ultra Broadband Applications
- Leveling Pulse Signal Sources
- Military Communications Systems

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Mechanical Specifications

Size	
Length	2.5 in [63.5 mm]
Width	2 in [50.8 mm]
Height	0.5 in [12.7 mm]
Weight	0.205 lbs [92.99 g]
Connector 1	SMA Female
Connector 2	SMA Female
Pins	Solder Pin

Environmental Specifications

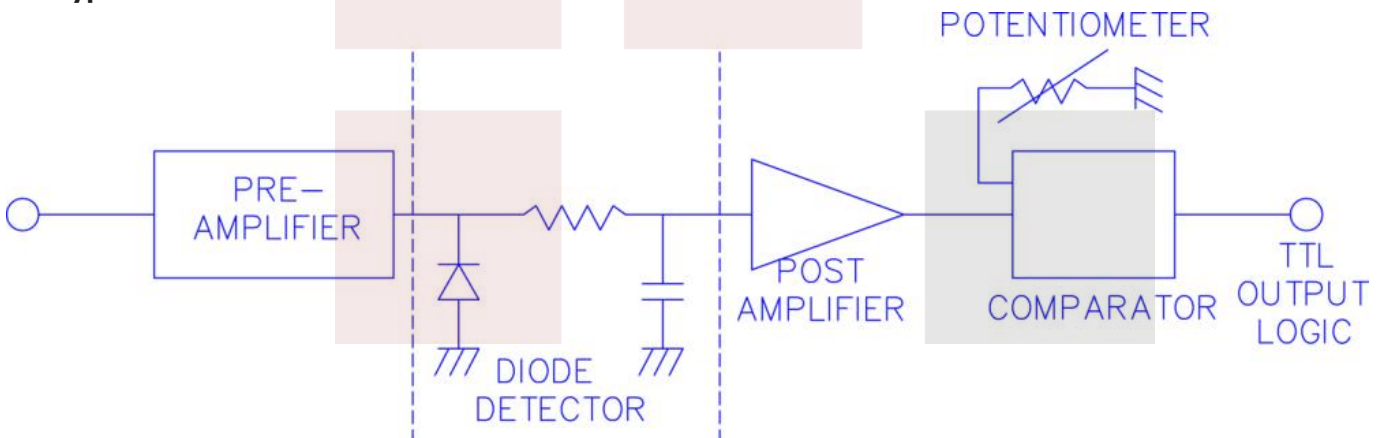
Temperature	
Operating Range	-55 to +85 deg C
Storage Range	-65 to +125 deg C
Temperature Cycle	MIL-STD-202F, METHOD 107D COND. A
Humidity	MIL-STD-202F, METHOD 103B COND. B
Shock	MIL-STD-202F, METHOD 213B COND. B
Vibration	MIL-STD-202F, METHOD 204D COND. B
Altitude	MIL-STD-202F, METHOD 105C COND. B

Compliance Certifications (see [product page](#) for current document)

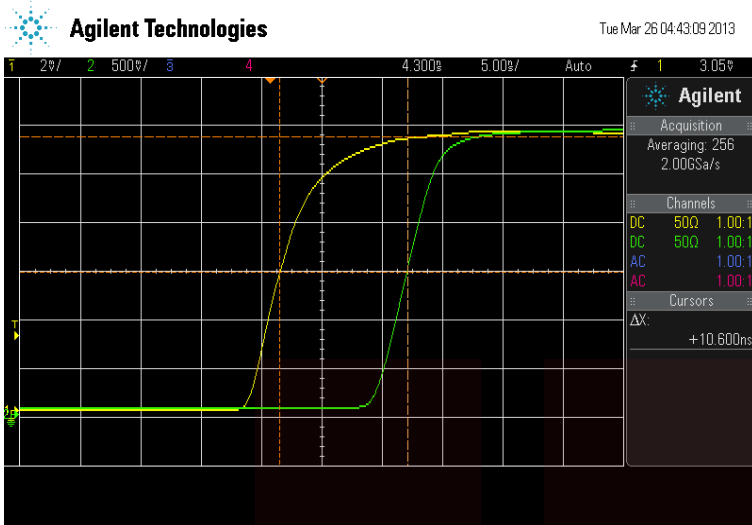
Plotted and Other Data

Notes:

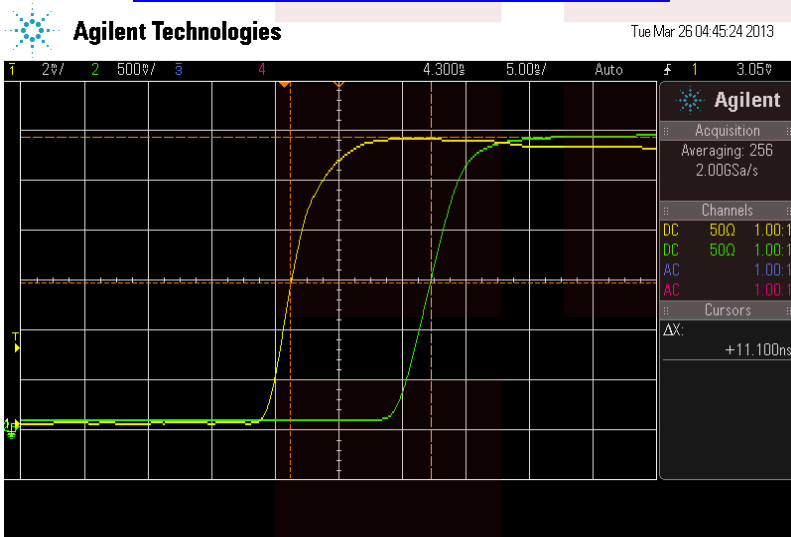
Typical Performance Data



Block Diagram of SMD-0218-45-SMA

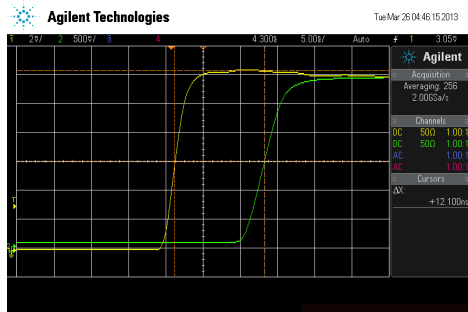


10GHz -45dBm On Time 50 Ohm Load



Channel 1 (Yellow): Using Crystal Detector at signal source.
Channel 2 (Green): Video Output from Threshold Detector.

18GHz -45dBm On Time 50 Ohm Load



Channel 1 (Yellow): Using Crystal Detector at signal source.

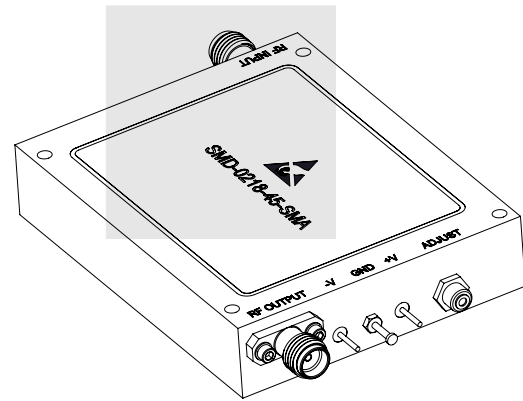
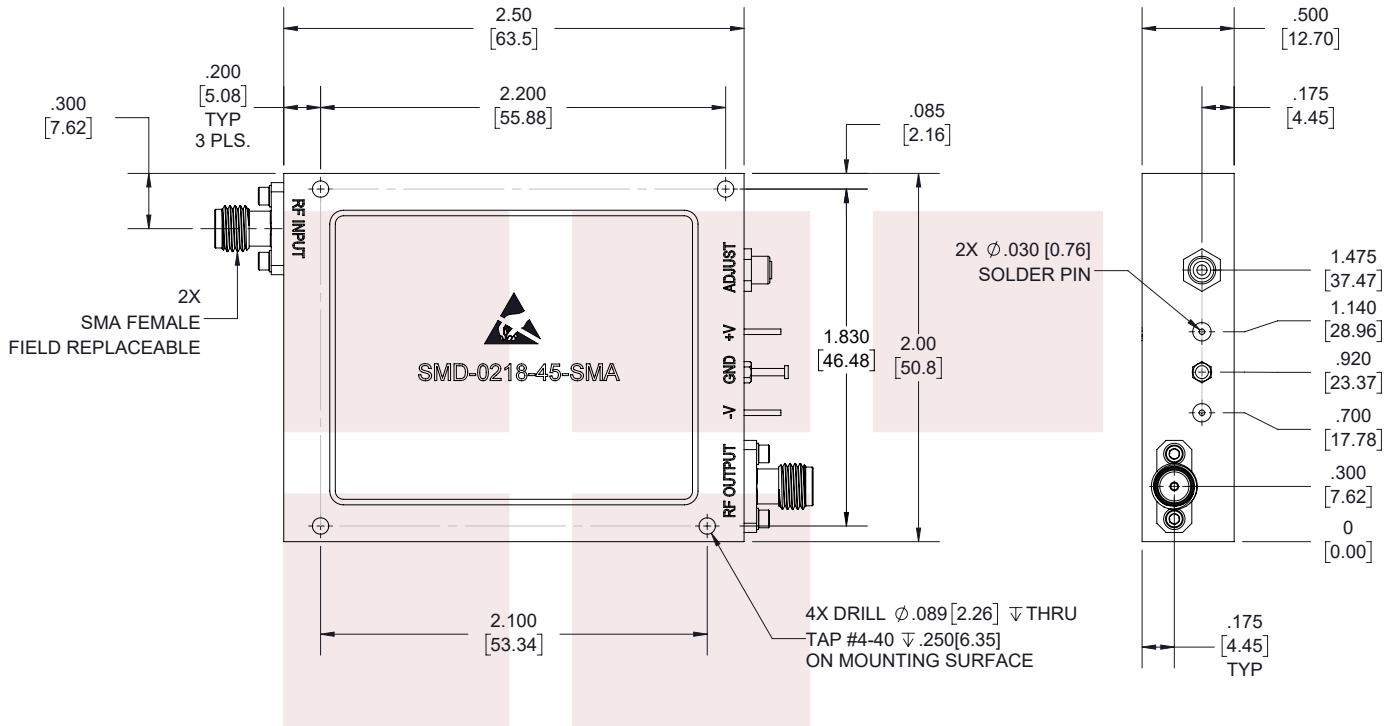
Channel 2 (Green): Video Output from Threshold Detector.

Frequency Detector, 2 GHz to 18 GHz, SMA, Video Out, +10 dBm max Pin from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Frequency Detector, 2 GHz to 18 GHz, SMA, Video Out, +10 dBm max Pin SMD-0218-45-SMA](https://www.fairviewmicrowave.com/frequency-detector-sma-female-2-18-ghz-smd-0218-45-sma-p.aspx)

URL: <https://www.fairviewmicrowave.com/frequency-detector-sma-female-2-18-ghz-smd-0218-45-sma-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



STANDARD TOLERANCES	
.X	± 0.2
.XX	± 0.01
.XXX	± 0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

Fairview Microwave RF COMPONENTS ON DEMAND. <i>Done!</i>		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].	
TITLE	Frequency Detector, 2 GHz to 18 GHz, SMA, Video Out, +10 dBm max Pin	DWG NO	SMD-0218-45-SMA
		CAGE CODE	3FKR5
		CAD FILE	03/28/19
		SHEET	1 OF 1
		SCALE	N/A
		SIZE	A
			7361