TTM Technologies
Time-To-Market Interconnect Solutions

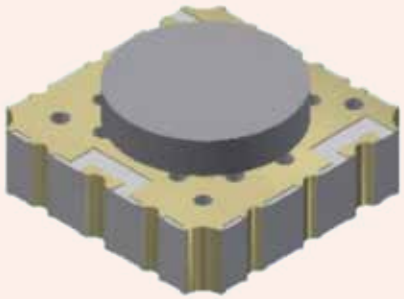
SMT Circulator X-Band

72831-G001 | Rev. B

The TTM X-Band Part, 72831-G001, is a high performance surface-mount circulator designed for phased array radar antennas, EW, and communication systems.

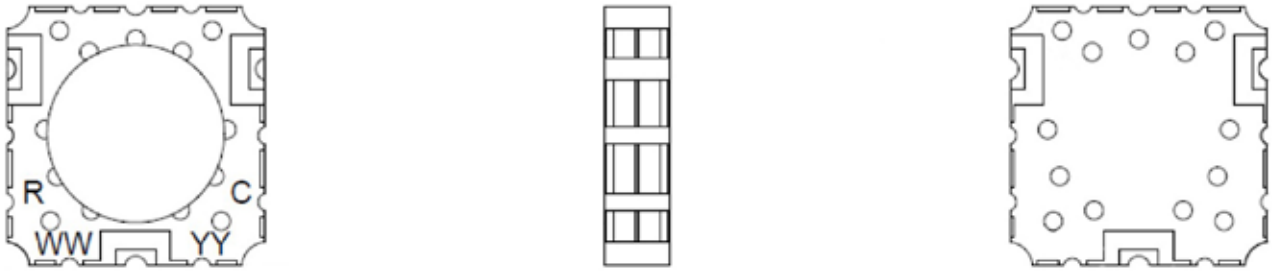
The patented device (U.S. 8183952) operates over a frequency range of 9.0-10.5GHz and offers 15db Isolation with an industry-leading 0.50dB Insertion Loss and RF Power Handling up to 20W continuous.

This device has a small form factor, is pick and place compatible, and withstands typical MIL ground and airborne environments.



Typical Electrical Performance*				Power Handling	Operating Temp.
Frequency	Return loss	Insertion loss	Isolation	20W CW	-40 to +85 ˚C
GHz	dB Min	dB Max	dB Min		
9.0-10.50	15	0.50	15		
**Data based on performance of unit soldered to TTM Test Board with small signal applied.*					
At 20W CW and 85˚C base temperature Insertion Loss can increase by up to 0.2 dB. *Specifications subject to change without notice*					

Figure 1: Mechanical Outline



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Mounting Configuration:

In order for the surface mount components to work optimally, 50-Ohm transmission lines must be used to connect to the RF ports. If this condition is not satisfied, Insertion Loss, Isolation and Return Loss may not meet published specifications. All of the SMT components are constructed from soft board composites, which possess excellent electrical and mechanical stability. An example of the PCB footprint used in the testing of these parts is shown in Figure 2.

Figure 2: Example Footprint on 0.020" RO4350 Test Board

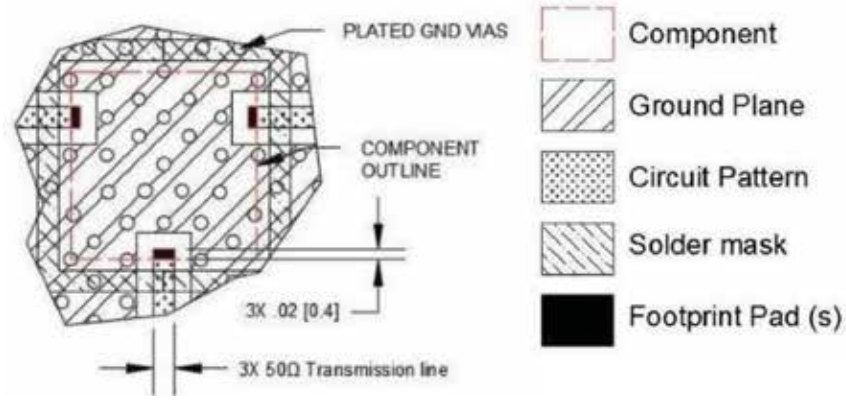

Figure 3: Typical Small Signal S-Parameters at 25° C; Five Units from Various Production Lots Soldered on Test Boards.