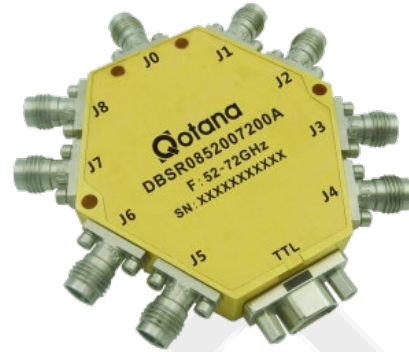


Features

- Wide Band Operation 52-72GHz
- TTL compatible driver included
- Fast Switching Speed
- Low Insertion Loss and High Isolation


Typical Applications

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

RF Microwave & VSAT
Fiber Optics

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units	
Frequency Range		52 - 69		69-72			GHz	
Insertion Loss		11.0	12.5		12.0	13.0	dB	
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C	
Isolation	30	35		30	35		dB	
Input VSWR		2.8	3.0		2.5	3.0	: 1	
Output VSWR		2.8	3.0		2.5	3.0	: 1	
RF Input power (CW)			23			23	dBm	
DC Power Dissipation		1.5			1.5		W	
0.1dB Compression Point (P0.1dB)		23			23		dBm	
IIP3		35			35		dBm	
Switching Speed		100 Typ.						ns
Bias Current (+5V / -5V)		300/40 Max.						mA
Weight		2.56 Max.						ounces
Impedance		50						Ω
Input / Output Connectors		1.85mm-Female						
Interface and Control Connector		MICRO-D9 (Female)						
Finish		Gold Plated						
Material		Aluminum						
Sealing		Hermetically Sealed (Optional)						

QOTANA TECHNOLOGIES

Reflective Coaxial SP8T Switch 52-72GHz

Absolute Maximum Ratings

Biasing Voltage	+5V ± 10% / -5V ± 10%
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Note: TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

Ordering Information

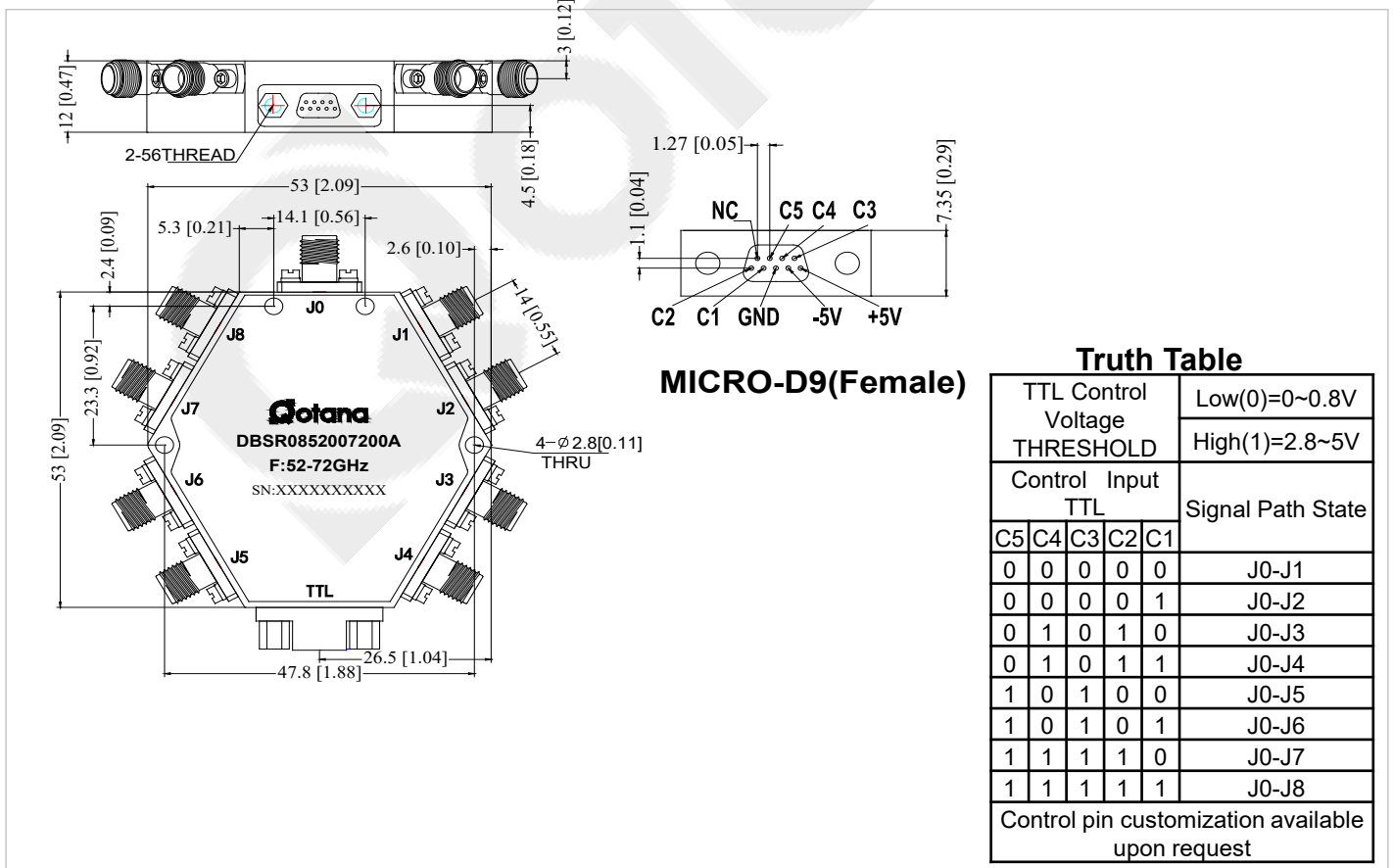
Part No.	Description
DBSR0852007200A	SP8T 52-72GHz PIN Diode Switch

Environmental Specifications

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Outline Drawing:

All Dimensions in mm (inches)
Housing Tolerances ± 0.1 (0.004)



The drawing shows a top view of the switch with dimensions in mm [inches]. Key features include:

- Dimensions: 53 [2.09] (width), 47.8 [1.88] (length), 12 [0.47] (height), 2.4 [0.09] (offset), 23.3 [0.92] (offset), 5.3 [0.21] (offset), 14.1 [0.56] (offset), 2.6 [0.10] (offset), 14 [0.55] (offset), 4.5 [0.18] (offset), 3 [0.12] (height), 1.27 [0.05] (height), 1.1 [0.04] (height), 7.35 [0.29] (height), 4-Ø2.8 [0.11] THRU (hole size).
- Connections: 2-56THREAD, J0, J1, J2, J3, J4, J5, J6, J7, J8, TTL, C5, C4, C3, C2, C1, GND, -5V, +5V, NC.
- Part Info: Qotana DBSR0852007200A F:52-72GHz SN:XXXXXXXXXX

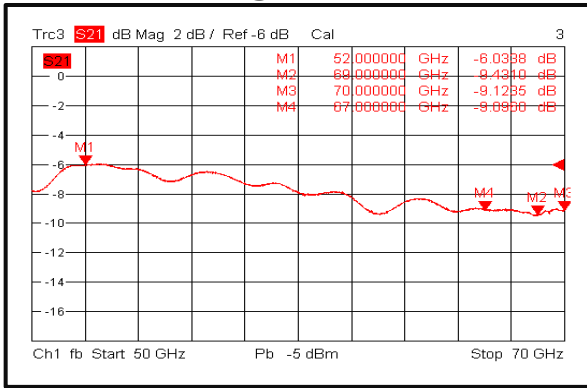
MICRO-D9(Female)

Truth Table

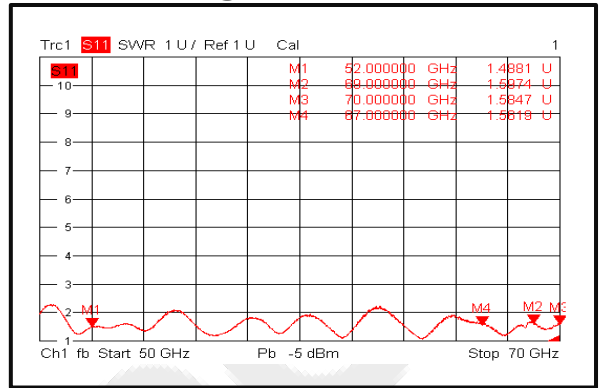
TTL Control Voltage THRESHOLD					Low(0)=0~0.8V
Control Input TTL					High(1)=2.8~5V
					Signal Path State
C5	C4	C3	C2	C1	
0	0	0	0	0	J0-J1
0	0	0	0	1	J0-J2
0	1	0	1	0	J0-J3
0	1	0	1	1	J0-J4
1	0	1	0	0	J0-J5
1	0	1	0	1	J0-J6
1	1	1	1	0	J0-J7
1	1	1	1	1	J0-J8

Control pin customization available upon request

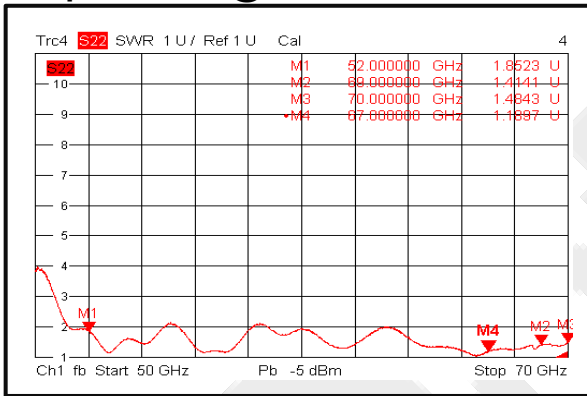
Insertion Loss @+25°C



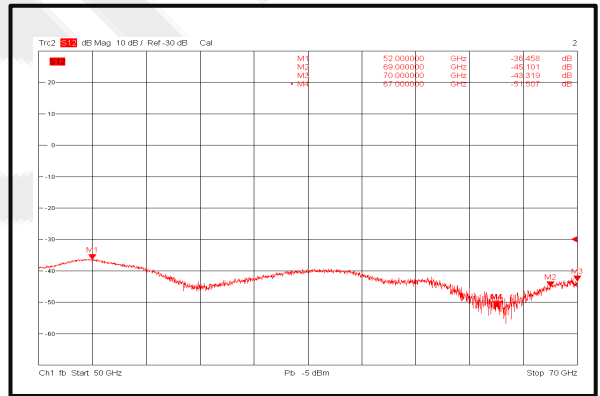
Input VSWR @+25°C



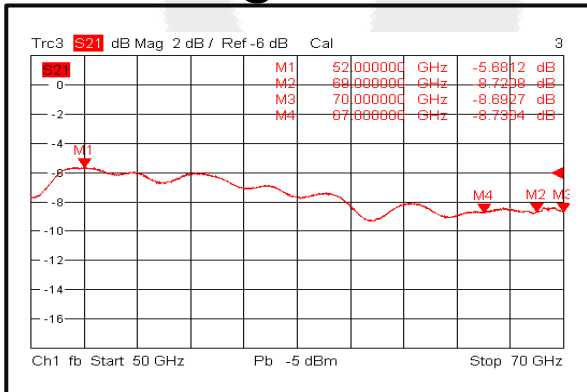
Output VSWR @+25°C



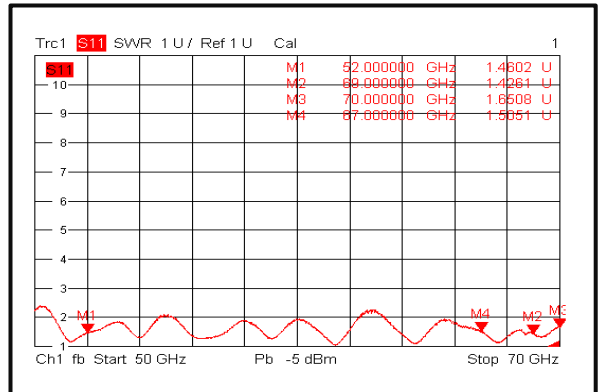
Isolation @+25°C



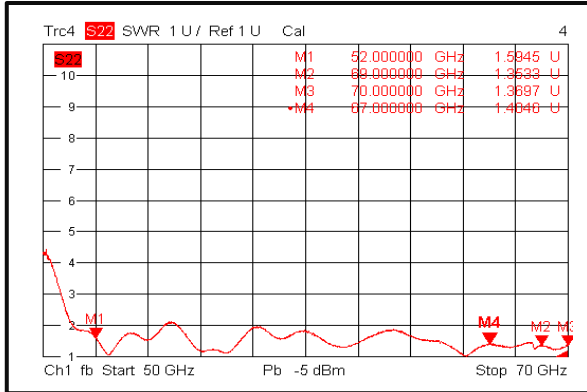
Insertion Loss @-40°C



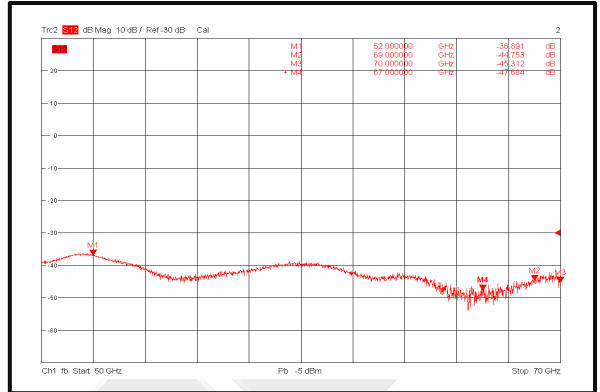
Input VSWR @-40°C



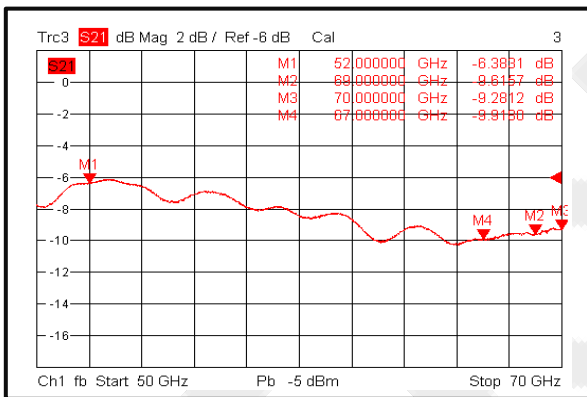
Output VSWR @-40°C



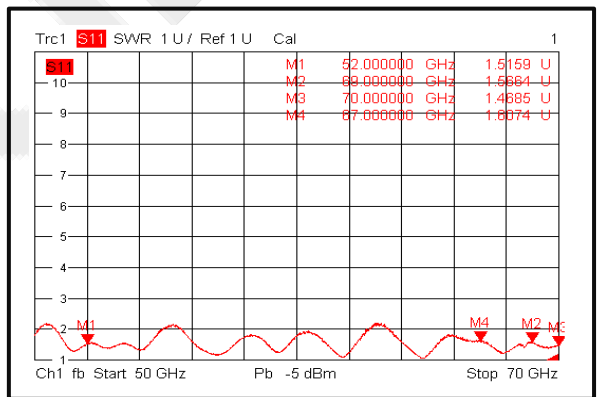
Isolation @-40°C



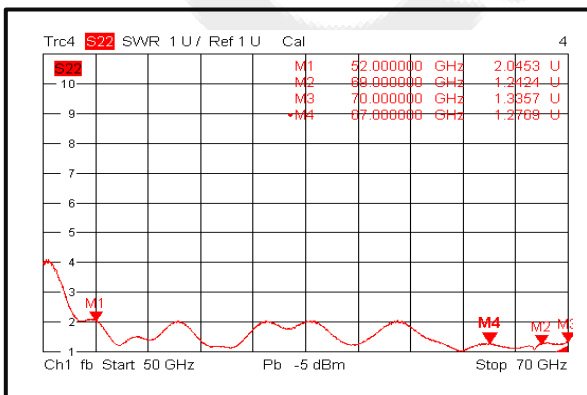
Insertion Loss @+85°C



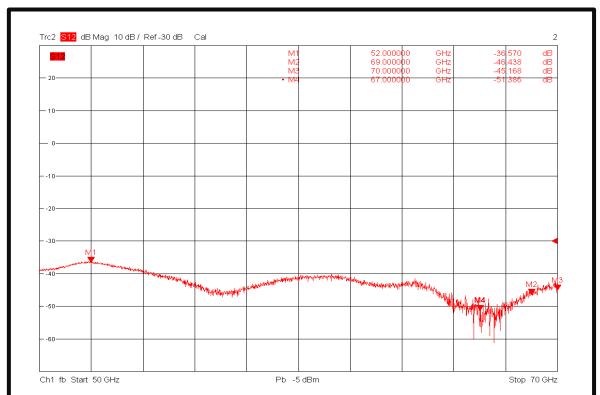
Input VSWR @+85°C



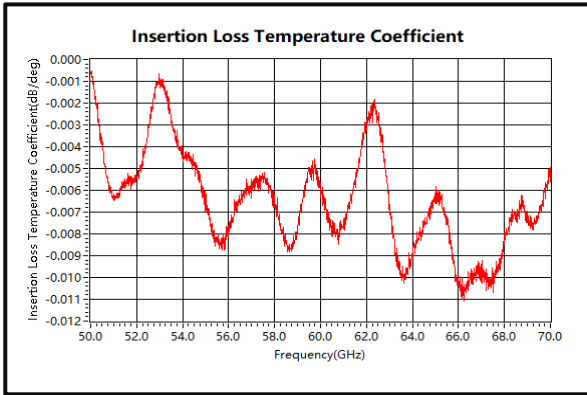
Output VSWR @+85°C



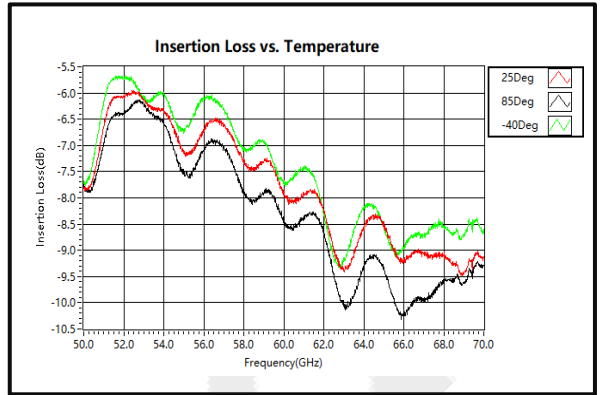
Isolation @+85°C



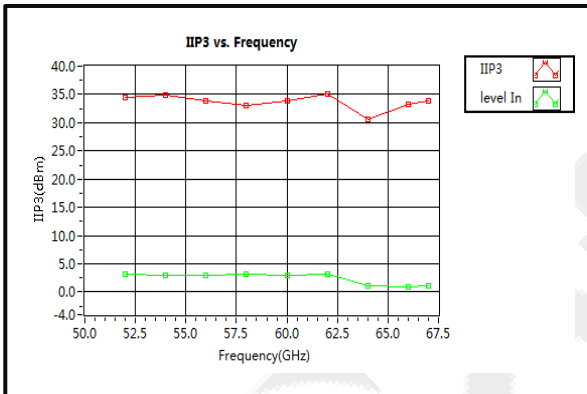
Insertion Loss Temperature Coefficient



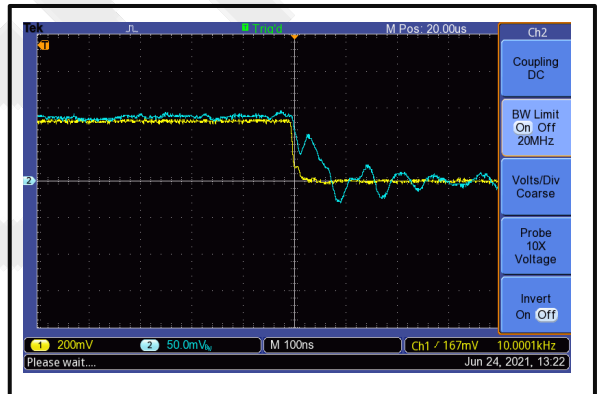
Insertion Loss vs. Temperature



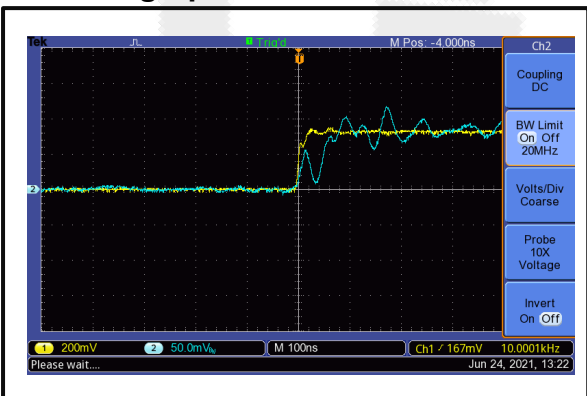
IIP3



Switching Speed



Switching Speed



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