

High-Performance SOI Product Family

For Broadband Communication Systems



QORVO
all around you

High-Performance SOI Product Family

Qorvo's family of broadband SOI (silicon-on-insulator) based RF switches, DSAs (digital step attenuators), TCA (temperature compensating attenuator) & PACs (programmable array capacitors) offers industry-leading linearity, power handling and reliability. Qorvo's patented, unique SOI technology enables integration of RF, analog and mixed signal functionality into single monolithic devices with best-in-class ESD rating, higher isolation, lower insertion loss and stable performance across PVT conditions.

The best-in-class RF performance coupled with higher integration and reliability enables significant reduction in overall BOM cost and PCB space and makes Qorvo® the trusted choice for market leaders in smartphones, cellular infrastructure, broadband communication, industrial & automotive, defense communication and test & measurement markets.

Qorvo's SOI reflective switch family of 5-6000 MHz, 2-to-8 throw switches featuring an industry-leading combination of insertion loss, linearity and isolation and housed in a tiny 2x2 QFN package and an absorptive, high isolation family of 5-6000 MHz 1-to-6 throw, switches, both of which require no external blocking capacitors.

Description	Switch Type	Frequency (MHz)	*Insertion Loss (dB)	*Isolation (dB)	*Switching Speed (ns)	P _{in} Max (dBm)	IIP3 (dBm)	Package (mm)	Part Number
Reflective SPDT	SP2T	5 to 6000	0.3	37	2000	37	75	2x2 QFN	RFSW1012
Low Distortion SPDT	SP2T	5 to 6000	0.25	39	2000	37	76	1.1x1.5 LGA	QPC1022
Reflective SP3T	SP3T	5 to 6000	0.45	37	2000	35	70	1.8x1.8 QFN	RFSW6032
Reflective SP4T	SP4T	5 to 6000	0.45	34	2000	35	71	1.8x1.8 QFN	RFSW6042
Reflective SP6T	SP6T	5 to 6000	0.55	29	2000	32	71	2x2 QFN	RFSW6062
Reflective SP8T	SP8T	5 to 6000	0.55	28	2000	32	69	2x2 QFN	QPC6082
Dual Reflective SP3T	DSP3T	5 to 6000	0.35	28	2000	35	70	2x2 QFN	RFSW6232
Dual Reflective SP2T	DSP2T	5 to 6000	0.3	30	2000	35	70	2x2 QFN	RFSW6222
Absorptive SPST	SP1T	5 to 6000	0.85	53	165	37	58	2x2 DFN	QPC6014
Absorptive SP2T	SP2T	5 to 6000	0.75	60	250	36	65	4x4 QFN	RFSW6024
Absorptive SP3T	SP3T	5 to 6000	0.95	60	150	36	59	4x4 QFN	QPC6034
Absorptive SP4T	SP4T	5 to 6000	0.95	56	150	36	61	4x4 QFN	QPC6044
Absorptive SP5T	SP5T	5 to 6000	1.1	56	150	36	59	4x4 QFN	QPC6054
Absorptive SP6T	SP6T	5 to 6000	1.1	56	150	36	59	4x4 QFN	QPC6064

* Measured at 2 GHz

Qorvo's SOI DSA portfolio features a patented overshoot-free transient performance as standard. In addition, these 2-to-7 bit DSAs come in the industry's smallest footprint, possess the industry's highest power handling capability and require no external blocking caps.

Description	Frequency (MHz)	# of Bits	Step Size (dB)	Attenuation Range (B)	*Insertion Loss (dB)	Switching Speed (ns)	IIP3	Package (mm)	Addressing	Part Number
7-bit, 128 State DSA	50 to 6000	7	0.25	31.75	1.5	120	57	4x4 QFN	Parallel, Serial	RFSA3714
7-bit, 128 State DSA	5 to 6000	7	0.25	31.75	1.5	120	57	5x5 QFN	Parallel, Serial, Addressable	RFSA3715
7-bit, 128 State DSA	5 to 6000	7	0.25	31.75	1.4	120	57	3x3 QFN	Serial, Addressable	RFSA3713
6-bit, 64 State DSA	5 to 6000	6	0.5	31.5	1.4	120	57	3x3 QFN	Serial, Addressable	RFSA3613
6-bit, 64 State DSA	5 to 6000	6	0.25	15.75	1.4	120	57	3x3 QFN	Serial, Addressable	RFSA3623
5-bit, 32 State DSA	5 to 6000	5	1	31	1.4	120	57	3x3 QFN	Serial, Addressable	RFSA3513
5-bit, 32 State DSA	5 to 6000	5	0.5	15.5	1.4	120	57	3x3 QFN	Serial, Addressable	RFSA3523
4-bit, 16 State DSA	5 to 6000	4	1	15	1.4	120	57	3x3 QFN	Parallel	RFSA3413
2-bit, 4 State DSA	50 to 6000	2	6	18	0.8	50	57	3x3 QFN	Parallel	QPC3223
7-bit, 128 State DSA	50 to 6000	7	0.25	31.75	1.7	50	57	3x3 QFN	Serial, Addressable	QPC6713

* Measured at 2 GHz

Qorvo's TCA product defines a new industry category for compensating gain over temperature, by replacing an entire set of passive attenuators with a monolithic programmable attenuator that features 64 different attenuation profiles for complete flexibility in offset and slope correction.

Description	Attenuation			IP1 (dBm)	IIP3 (dBm)	Voltage Supply	Package (mm)	Part Number
	Frequency (MHz)	Attenuation Slope (dB/C)	Range Over Temp (dB)					
64 Profile Selectable, TCA	5 to 6000	0.003 to 0.01	3 to 10	30	52	2.7 to 5.5	3x3 QFN	RFSA4033

Qorvo's high-linearity, high-Q PACs offers the industry's widest tuning ratio and best power handling, and finds application in tunable filters, phase shifters and matching networks.

Description	Frequency (MHz)	Capacitor Range (pF)	Step Size (pF)	V _{rf} (V)	IIP3 (dBm)	V _{cc} (V)	I _{cc} (μA)	Package	Part Number
6-bit, 64 State PAC	150 to 3000	0.5 to 13.7	0.2	40	>70	2.4-3.5	<100	2x2.5 QFN	RFAC3612
5-bit, 32 State PAC	150 to 3000	0.6 to 4.1	0.11	40	>70	2.7-5.5	<100	2x2.5 QFN	RFAC3622
5-bit, 32 State PAC	150 to 3000	0.7 to 8.9	0.25	40	>70	2.7-5.5	<100	2x2.5 QFN	RFAC3632
5-bit, 32 State PAC	150 to 3000	0.7 to 14	0.5	40	>70	2.7-5.5	<100	2x2.5 QFN	RFAC3642
4-bit, 16 State PAC	150 to 3000	0.5 to 4.5	0.25	40	>70	3-5.5	<100	3x3 QFN	RFAC3313