Single Pole Single Throw (SPST) Switchers, SKS Series

FEATURES:

- Frequency coverage: 0.5 to 110 GHz
- Reflective and absorptive
- Low insertion loss and high isolation
- Standard temperature range: -10 to +60 °C
- Control: TTL High

APPLICATIONS:

- Amplitude modulations
- Radar systems
- Communication systems
- System integrations

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DESCRIPTION:

SKS series single pole single throw (SPST) switches are discrete or MMIC based PIN diode switches. As catalog models, both reflective and absorptive switches are offered up to 50 GHz and only reflective switches are offered from 50 GHz above. While the TTL driver is internally integrated in the switches with coaxial interfaces for ease control and system integration, an external TTL driver is provided for waveguide configuration.

Although the absorptive switch exhibits good return loss in both “on” and “off” states, the insertion loss and cost of such switch are relative high compared to its counterpart, the reflective switch. On the other hand, the reflective switch has poor VSWR in the “off” state since the isolation is achieved by shorting transmission path, which causes the signal being reflected. However, the advantages of the reflective switch are its higher power handling capacity and lower cost. In addition, isolators can be added to the input and output to transfer the reflective switches to absorptive switches at higher frequency bands, especially the case of waveguide configuration.

While the focus of the catalog models addresses specific operation frequencies, performances and package styles, custom designed models are available to meet customers’ unique application needs.

CATALOG MODELS (Absorptive):

Model Number	Frequency Range (GHz)	Insertion Loss (dB)	Isolation (dB)	Switching Time (ns)	Power Handling (W)	Bias V / I (V / mA)	VSWR	Outline
SKS-0230431160-SFSF-A1	2.0 to 4.0	1.1	60	100	1.0	±5.0 / 50	1.5:1	KS-AC
SKS-0230431280-SFSF-A1	2.0 to 4.0	1.2	80	100	1.0	±5.0 / 50	1.5:1	KS-AC
SKS-0430831560-SFSF-A1	4.0 to 8.0	1.5	60	100	1.0	±5.0 / 50	1.7:1	KS-AC
SKS-0430831680-SFSF-A1	4.0 to 8.0	1.6	80	100	1.0	±5.0 / 50	1.7:1	KS-AC
SKS-0831832060-SFSF-A1	8.0 to 18.0	2.2	60	100	1.0	±5.0 / 50	2.0:1	KS-AC
SKS-0831832080-SFSF-A1	8.0 to 18.0	2.5	80	100	1.0	±5.0 / 50	2.0:1	KS-AC
SKS-0521832860-SFSF-A1	0.5 to 18.0	2.8	60	100	0.5	±5.0 / 50	2.0:1	KS-AC
SKS-1832731630-KFKF-A1	18.0 to 26.5	1.6	30	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-1832732040-KFKF-A1	18.0 to 26.5	2.0	40	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-2734031830-KFKF-A1	26.5 to 40.0	1.8	30	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-2734032240-KFKF-A1	26.5 to 40.0	2.2	40	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-1834032030-KFKF-A1	18.0 to 40.0	2.0	30	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-1834032240-KFKF-A1	18.0 to 40.0	2.2	40	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-3335032230-2F2F-A1	33.0 to 50.0	2.2	30	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-3335032540-2F2F-A1	33.0 to 50.0	2.5	40	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-1835032330-2F2F-A1	18.0 to 50.0	2.3	30	100	0.25	±5.0 / 20	1.5:1	KS-AC
SKS-1835032540-2F2F-A1	18.0 to 50.0	2.5	40	100	0.25	±5.0 / 20	1.5:1	KS-AC

CATALOG MODELS (Reflective):

Model Number	Frequency Range (GHz)	Insertion Loss (dB)	Isolation (dB)	Switching Time (ns)	Power Handling (W)	Bias V / I (V / mA)	VSWR (On State)	Outline
SKS-0230430860-SFSF-R1	2.0 to 4.0	0.8	60	100	1.0	±5.0 / 50	1.5:1	KS-RC
SKS-0230431080-SFSF-R1	2.0 to 4.0	1.0	80	100	1.0	±5.0 / 50	1.5:1	KS-RC
SKS-0430831160-SFSF-R1	4.0 to 8.0	1.1	60	100	1.0	±5.0 / 50	1.5:1	KS-RC
SKS-0430831280-SFSF-R1	4.0 to 8.0	1.2	80	100	1.0	±5.0 / 50	1.5:1	KS-RC
SKS-0831832060-SFSF-R1	8.0 to 18.0	2.0	60	100	1.0	±5.0 / 50	1.7:1	KS-RC
SKS-0831832280-SFSF-R1	8.0 to 18.0	2.2	80	100	1.0	±5.0 / 50	1.7:1	KS-RC
SKS-0521832560-SFSF-R1	0.5 to 18.0	2.5	60	100	0.5	±5.0 / 50	2.0:1	KS-RC
SKS-1832731830-KFKF-R1	18.0 to 26.5	1.8	30	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-1832731840-KFKF-R1	18.0 to 26.5	1.8	40	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-2734032030-KFKF-R1	26.5 to 40.0	2.0	30	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-2734032040-KFKF-R1	26.5 to 40.0	2.0	40	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-1834032030-KFKF-R1	18.0 to 40.0	2.0	30	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-1834032040-KFKF-R1	18.0 to 40.0	2.0	40	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-3335032230-2F2F-R1	33.0 to 50.0	2.2	30	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-3335032240-2F2F-R1	33.0 to 50.0	2.2	40	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-1835032330-2F2F-R1	18.0 to 50.0	2.3	30	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-1835032340-2F2F-R1	18.0 to 50.0	2.3	40	100	0.25	±5.0 / 20	1.5:1	KS-RC
SKS-4535532225-1919-R1	45.0 to 55.0	2.2	25	100	0.25	±5.0 / 30	1.5:1	KS-RU
SKS-5536532425-1515-R1	55.0 to 65.0	2.4	25	100	0.25	±5.0 / 30	1.5:1	KS-RV
SKS-7538532625-1212-R1	75.0 to 85.0	2.6	25	100	0.25	±5.0 / 30	1.5:1	KS-RE
SKS-9031042825-1010-R1	90.0 to 100.0	2.8	25	100	0.25	±5.0 / 30	1.5:1	KS-RW

CUSTOM DESIGNED MODELS:

Sage Millimeter's custom designed SPST switch model numbers are configured per following format. Customers may refer to the format and specify their own model numbers accordingly when placing the order.

SKS- F1N F2N IL IS - CI CO - XY

F1N is the start frequency in MHz x 10N. For example: 10 GHz = 103
F2N is the stop frequency in MHz x 10N. For example: 40 GHz = 403
IL is the insertion loss in 1/10 dB. For example: 2.0 dB = 20
IS is the isolation in dB. For example: 35 dB = 35
CI is the input connector type. For example: K(F) = KF
CO is the output connector type. For example: K(M) = KM
X is for switch type. "A" is absorptive switch and "R" is for reflective switch.
Y is for factory reserve.

Example: SKS-1034032035-KFKM-R1 is a custom designed SPST switch with RF frequency range of 10 to 40 GHz, insertion loss of 2.0 dB and isolation of 35 dB. The input and output of the RF connectors are K(F) and K(M) connector respectively. It is a reflective type. "1" is a factory assigned sequential number.