

SP6T UltraCMOS™ 2.6 V Switch 100 – 3000 MHz

Figure 1. Functional Diagram

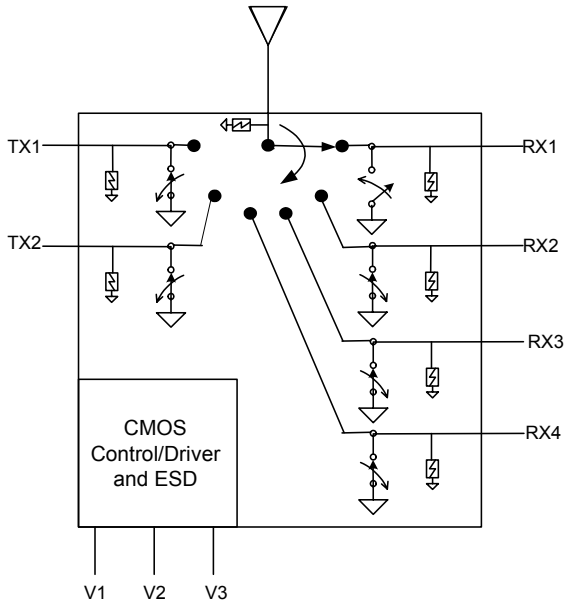
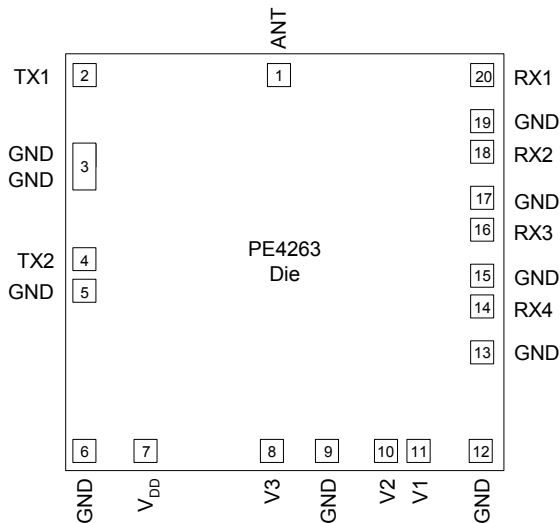


Figure 2. Pin Configuration (Top View)



Features

- Three pin CMOS logic control with integral decoder/driver
- Low TX insertion loss: 0.55 dB at 900 MHz, 0.65 dB at 1900 MHz
- TX – RX Isolation of 48 dB at 900 MHz, 40 dB at 1900 MHz
- Low harmonics: $2f_o = -85$ dBc and $3f_o = -72$ dBc at 850/900 MHz
- 1500 V HBM ESD tolerance all ports
- 41 dBm P1dB
- No blocking capacitors required

Product Description

The PE4263 SP6T RF UltraCMOS™ Switch addresses the specific design needs of the Quad-Band GSM Handset Antenna Switch Module Market. On-chip CMOS decode logic facilitates three-pin low voltage CMOS control. High ESD tolerance of 1500 V at all ports, no blocking capacitor requirements and on-chip SAW filter over-voltage protection devices make this the ultimate in integration and ruggedness.

The PE4263 RF Switch is manufactured on Peregrine's UltraCMOS™ process, a patented variation of silicon-on-insulator (SOI) technology on a sapphire substrate, offering the performance of GaAs with the economy and integration of conventional CMOS.

Figure 3. Die Top View

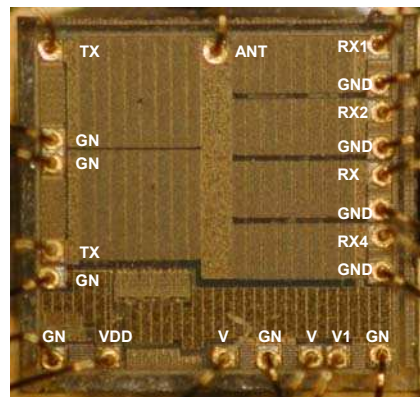


Table 1. Electrical Specifications @ +25 °C, V_{DD} = 2.6 V (Z_S = Z_L = 50 Ω)

Parameter	Conditions	Typical	Units
Operational Frequency		100-3000	MHz
Insertion Loss	ANT - TX - 850 / 900 MHz	0.55	dB
	ANT - TX - 1800 / 1900 MHz	0.65	dB
	ANT - RX - 850 / 900 MHz	0.90	dB
	ANT - RX - 1800 / 1900 MHz	1.00	dB
Isolation	TX - RX - 850 / 900 MHz	48	dB
	TX - RX - 1800 / 1900 MHz	40	dB
	TX - TX - 850 / 900 MHz	29	dB
	TX - TX - 1800 / 1900 MHz	25	dB
	ANT - TX - 850 / 900 MHz	31	dB
	ANT - TX - 1800 / 1900 MHz	25	dB
Return Loss	850 / 900 MHz	22	dB
	1800 / 1900 MHz	23	
2nd Harmonic	35 dBm TX Input - 850 / 900 MHz	-85	dBc
	33 dBm TX Input - 1800 / 1900 MHz	-81	
3rd Harmonic	35 dBm TX Input - 850 / 900 MHz	-72	dBc
	33 dBm TX Input - 1800 / 1900 MHz	-66	
Switching Time	(10-90%) (90-10%) RF	2	μs

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