

CXM3599UR

Description

The CXM3599UR is a high power and ultra-high linearity SP4T switch for wireless communication systems.

The CXM3599UR can be used for SVLTE and carrier aggregation requiring very high linearity.

This IC has a 1.8 V CMOS compatible decoder.

The Sony GaAs junction gate pHEMT (JPHEMT) MMIC process is used for low insertion loss and ultra-high linearity.
(Application: LTE/CDMA/GSM/UMTS Handsets and mini base-stations)

Features

- Low Insertion loss: 0.27 dB (Typ.) (Cellular Band)
0.45 dB (Typ.) (IMT2000)
- Ultra-high linearity: IMD3 = -104 dBm (Max.), IIP3 = 82 dBm (Min.)
at LTE Band 13, PTx = +23 dBm, PBlocker = +14 dBm
- Low voltage operation: $V_{DD} = 2.5$ V
- No DC blocking capacitors required on RF ports
- Small package size: UQFN-20pin (2.5 mm × 2.5 mm)
- Lead-Free and RoHS compliant

Structure

GaAs JPHEMT MMIC switch, CMOS decoder

Moisture Sensitivity

Moisture Sensitivity Level for this part is MSL = 2

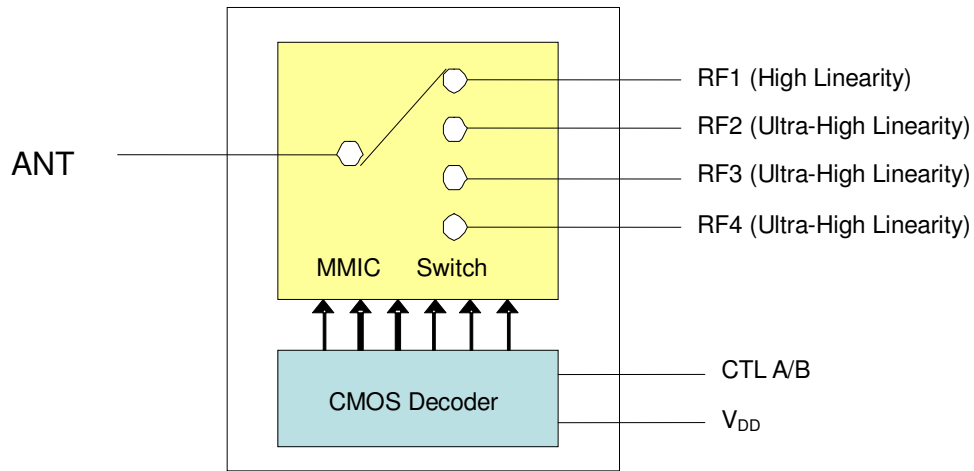
Absolute Maximum Ratings

◆ Bias voltage	V_{DD}	4	V	($T_a = 25$ °C)
◆ Control voltage	V_{ctl}	4	V	($T_a = 25$ °C)
◆ Maximum input power	—	36	dBm	(Duty cycle = 12.5 to 50 %, $T_a = 25$ °C)
◆ Operating temperature	T_{opr}	-35 to +90	°C	
◆ Storage temperature	T_{stg}	-65 to +150	°C	

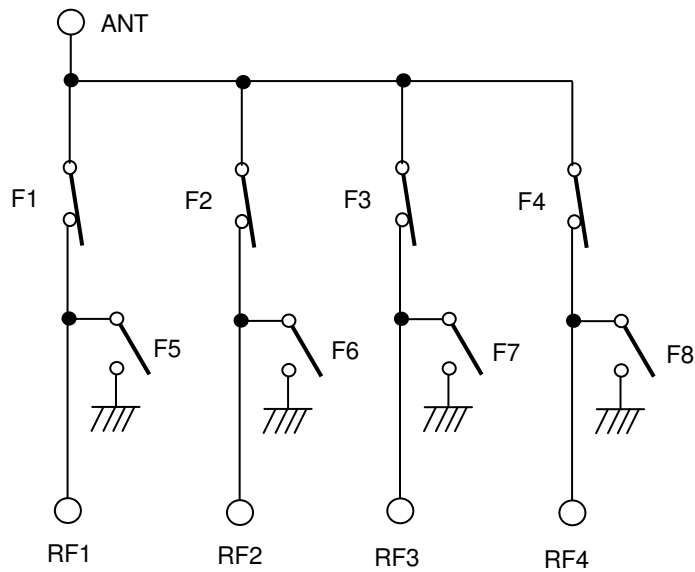
This IC is ESD sensitive device. Special handling precautions are required.

Block Diagram

SP4T Antenna Switch



MMIC Switch



Truth Table

CTLA	CTLB	Active path	F1	F2	F3	F4	F5	F6	F7	F8
L	L	ANT-RF1	ON	OFF	OFF	OFF	OFF	ON	ON	ON
H	L	ANT-RF2	OFF	ON	OFF	OFF	ON	OFF	ON	ON
L	H	ANT-RF3	OFF	OFF	ON	OFF	ON	ON	OFF	ON
H	H	ANT-RF4	OFF	OFF	OFF	ON	ON	ON	ON	OFF

