

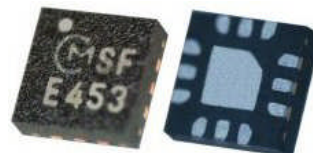
GaAs IC High Power SP3T Switch for 0.8-2.5GHz

Applications

AMPS, CDMA, GPS and other RF applications.

Features

- Positive Voltage Control.....+2.8V (typ.)
- Low Insertion Loss.....0.35dB @ 900MHz / 0.38dB @ 1900MHz
- High Isolation.....27dB @ 900MHz / 21dB @ 1900MHz
- Small / Thin Package 12 pin Leadless Package
(2.5mm × 2.5mm × 0.75mm, RoHS Compliant)
- MSL 3



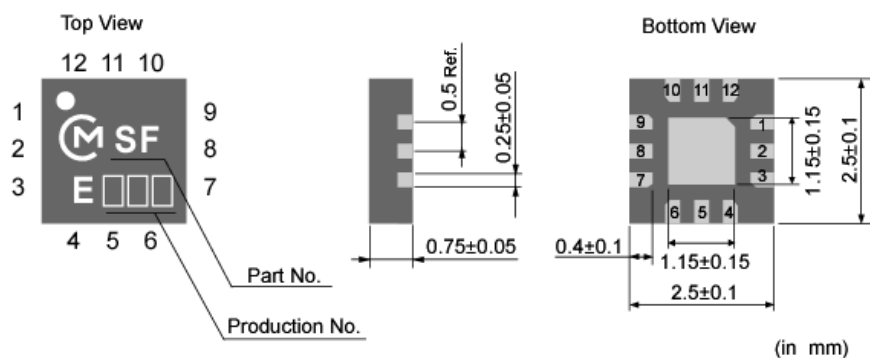
Absolute Maximum Ratings

Symbol	Parameter	Conditions	Rating	Unit
VCTL(H)	Control Voltage (High)	Ta = 25°C 2.2 ≤ VCTL(H) - VCTL(L) ≤ 5.0	2.6 to 5.0	V
VCTL(L)	Control Voltage (Low)		-0.2 to 0.2	V
Pin	RF Input Power	Ta = 25°C VCTL(H) = 2.6V, VCTL(L) = 0V	34	dBm
Top	Operating Temperature	-	-40 to 85	°C
Tstg	Storage Temperature	-	-55 to 150	°C

Electrical Specifications (Ta=25°C, VCTL(H)=2.6V, VCTL(L)=0V)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
ICTL	Control Current	Either State	-	10	-	μA
f _o	Operation Frequency	-	0.8	-	2.5	GHz
IL	Insertion Loss	0.8GHz – 1.0GHz	-	0.35	0.6	dB
		1.0GHz – 2.0GHz	-	0.4	0.65	dB
		2.0GHz – 2.5GHz	-	0.5	0.7	dB
ISO	Isolation (ANT-Port)	0.8GHz – 1.0GHz	23	27	-	dB
		1.0GHz – 2.0GHz	17	21	-	dB
		2.0GHz – 2.5GHz	15	19	-	dB
P _{in0.5dB}	Input Power for 0.5dB Compression	0.8GHz – 2.5GHz	30	33	-	dBm

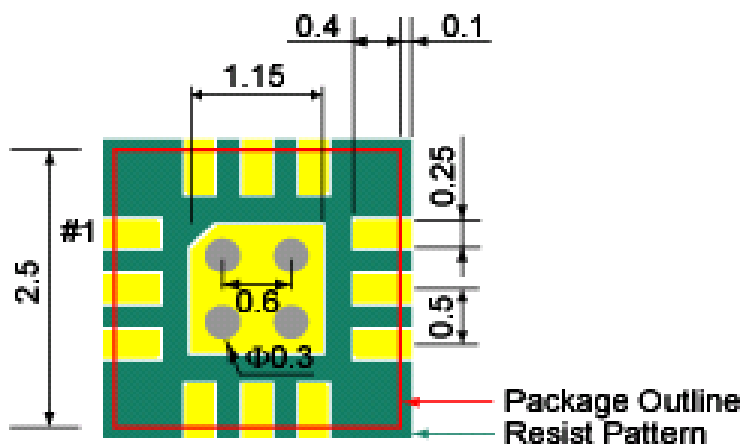
Package Outline and Pin Connections



Pin No.	Function	Pin No.	Function
1	GND	7	CTL1
2	Port3	8	Port1
3	CTL3	9	GND
4	GND	10	GND
5	ANT	11	Port2
6	GND	12	CTL2

Backside Terminal : GND

Land Pattern



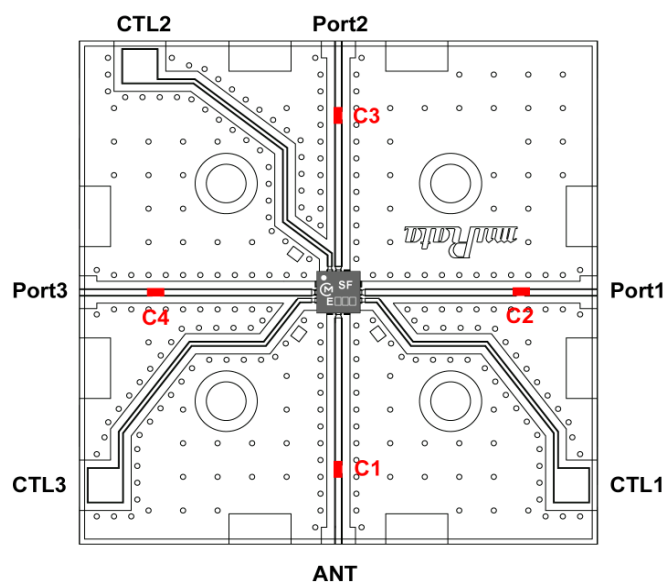
□ Truth Table

Path	CTL1	CTL2	CTL3
ANT-Port1	H	L	L
ANT-Port2	L	H	L
ANT-Port3	L	L	H

H: 2.8V

L: 0V

□ Evaluation Board



Parts List

Part No.	Products	Value
C1-C4	GRM155 (Murata)	47 pF

Substrate

Material :FR4 ($\epsilon_r = 4.4$)
 Size : 30mm x 30mm
 Thickness : 0.2mm + Dummy 0.4mm

□ Typical Performance Data (On Evaluation Board, Fixture's Loss de-embedded)

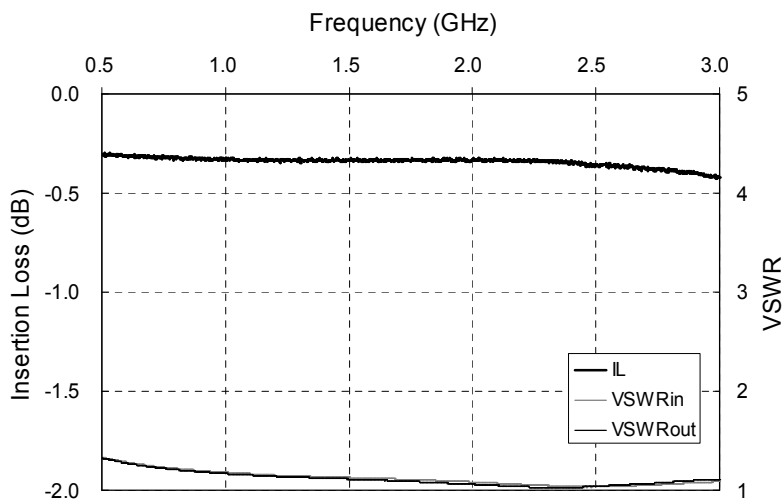


Fig.1 Insertion Loss and VSWR vs. Frequency ($V_{CTL(H)}=2.6V$)

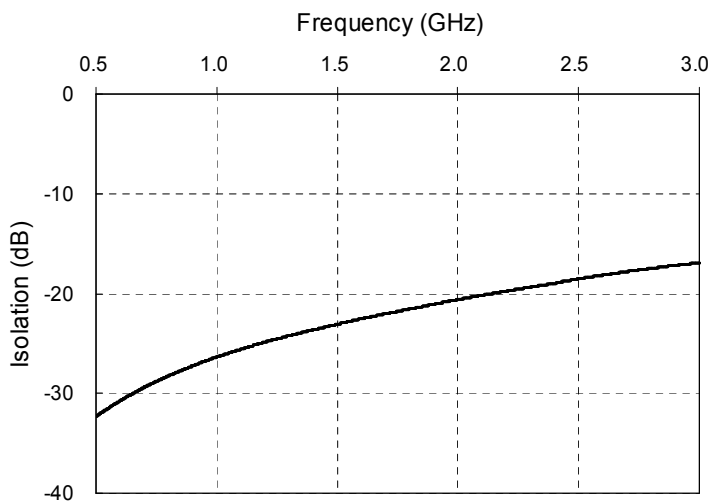


Fig.2 Isolation (ANT-Port) vs. Frequency ($V_{CTL(H)}=2.6V$)

□ Typical Performance Data (On Evaluation Board, Fixture's Loss de-embedded)

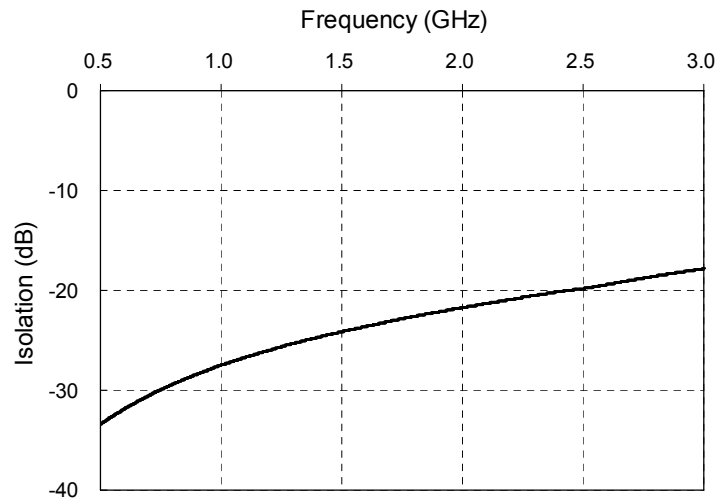


Fig.3 Isolation (Port-Port) vs. Frequency ($V_{CTL(H)}=2.6V$)

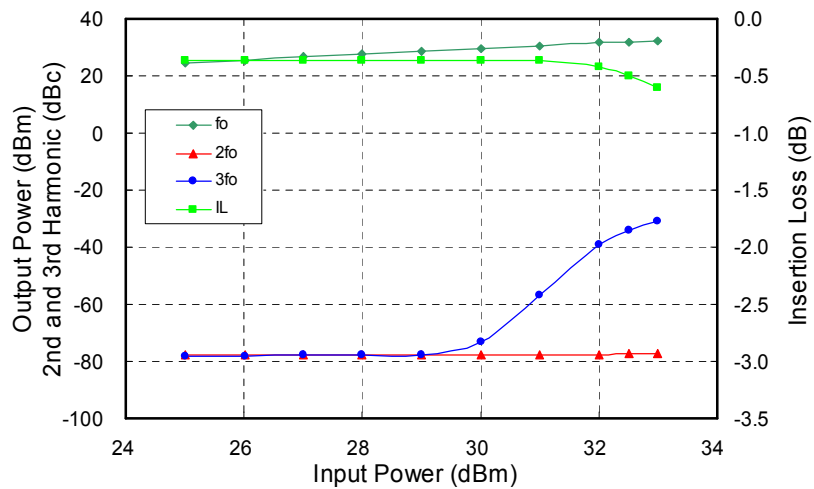


Fig.4 Power Characteristics ($V_{CTL(H)}=2.6V$)

□ Typical Performance Data (On Evaluation Board, Fixture's Loss de-embedded)

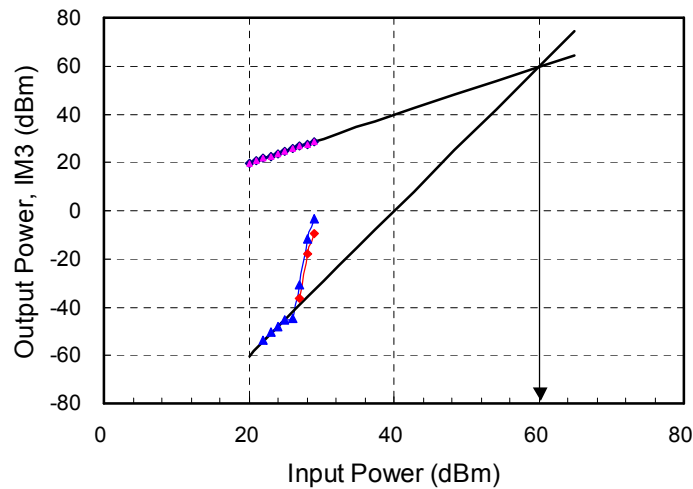


Fig.5 3rd-order Input Intercept Point ($V_{CTL(H)}=2.8V$)



CAUTION -Limitation of Applications-

The product is designed and manufactured for consumer application only and is not available for any application listed below which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property.

- Aircraft equipment.
- Aerospace equipment.
- Undersea equipment.
- Medical equipment.
- Transportation equipment (vehicles, trains, ships, etc.).
- Traffic signal equipment.
- Disaster prevention / crime prevention equipment.
- Application of similar complexity and/ or reliability requirements to the applications listed in the above.