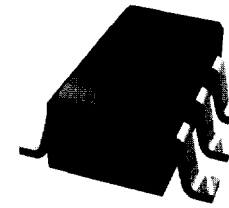
AWS5512S14

Dual Band PHEMT Transfer Reflective Switch DC - 2.5 GHz

Advanced Product Information - Rev 1

FEATURES

- Low Insertion Loss (0.4 dB @ 0.9 GHz)
- Harmonics < 65 dBc @ P_{IN}= +30 dBm
- Simultaneous T/R Switching
- Small SOT-26 Plastic Package



S14
SOT-26
6 Pin Plastic Package

Description

The AWS5512 GaAs MMIC is a four port transfer switch assembled in a SOT-26 plastic package. The switch design is used for applications that require high linearity as well as the combination of transmit/receive and antenna selection functionality in one device. The switch performs to 2.5 GHz, making it suitable for dual band handset design.

Electrical Specifications at 25 °C (0V, +5V)

Parameter	Frequency	TX-J_1 or RX - J_1			TX-J_2 or RX - J_2			Unit
		Min	Typ	Max	Min	Typ	Max	
Insertion Loss	DC - 1.0 GHz DC - 2.0 GHz	-	0.4 0.8	0.5 0.9	-	0.4 0.8	0.5 0.9	dB dB
Isolation	DC - 1.0 GHz DC - 2.0 GHz	16 13	18 15	-	16 13	18 15		dB dB
VSWR	DC - 1.0 GHz DC - 2.0 GHz	-	1.1:1 1.3:1	1.2:1 1.4:1	-	1.1:1 1.3:1	1.2:1 1.4:1	-

Operating Characteristics at 25° C (0, +5V)

Parameter	Condition	Frequency	Min	Typ	Max	Unit
Switching Characteritics	Rise, Fall (10/90% or 90/10% RF) On, Off (50% CTL to 90%/10% RF) Video Feedthru	-	-	20 40 50	-	ns ns mV
Harmonics	P_{IN}= +30 dBm	.5 to 2.5 GHz	65	-	-	dBc
Control Voltage	V_{LOW} = -0.2V to 0.2V @ 20 uA Max V_{HIGH} = 4.8V to 5.2V @100 uA Max					

1. *All measurements made in a 50 ohm system, unless otherwise specified.*
2. *Insertion loss changes by 0.003 dB/°C.*

Absolute Maximum Ratings

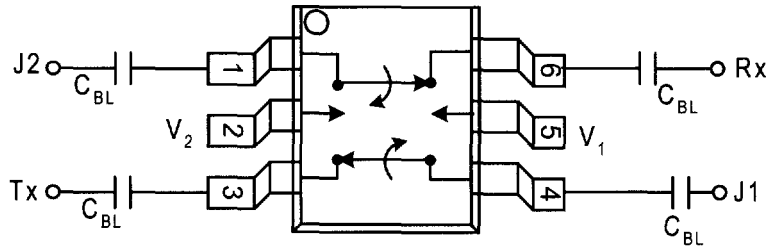
Characteristics	Value
RF Input Power	4 W > 0.5 GHz MHz, 0/-7 V Control
Control Voltage Differential	10V
Operating Temperature	-40° C to +85°C
Storage Temperature	-65°C to 150°C
Θ_{jc}	25° C/W

Truth Table

V_1	V_2	TX - J_2, RX - J_1	TX-J_1, RX - J_2
5	0	Insertion Loss	Isolation
0	5	Isolation	Insertion Loss

Pin Out

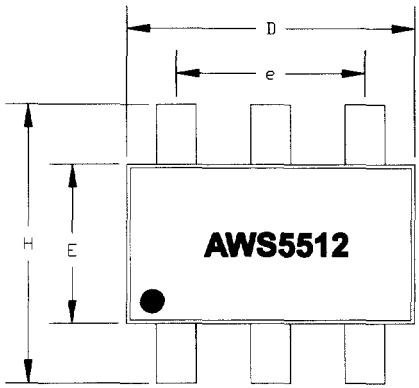
Pin	Function
1	J2
2	V2
3	Tx
4	J1
5	V1
6	Rx

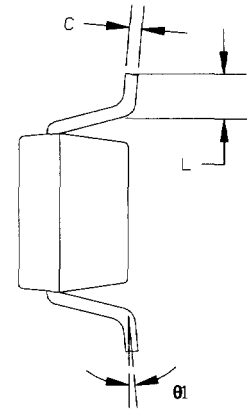


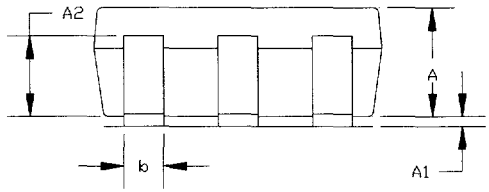
C_{BL} = 100 pF for operation >500 MHz.

Package Outline Diagram

SCALE: 20:1







NOTES:

1. *Package body sizes exclude mold flash and gate burrs.*
2. *Dimension L is measured in gage plane*
3. *Coplanarity: 0.1000 mm*
4. *Tolerance + 0.1000 mm (4 mil) unless otherwise specified.*