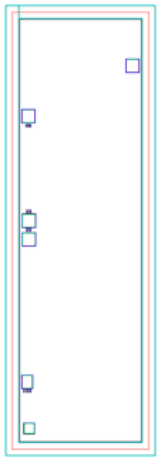
AMT1316

14 - 18GHz Transceiver Integrated Multi-Function Chip



Key Features :

- Receiver frequency : 14 – 18GHz
- Receiver gain : 24dB
- Receiver noise : 2.8dB
- Receiver clipper endurance power : 30dBm
- Receiver input/output standing wave : 1.8
- Transmitter insertion loss : 1.5dB
- Transmitter output power at P-1 : 31dBm
- Transmit input/output standing wave : 1.8
- Chip dimensions : 1.2mm x 3.4mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1316 is a high performance transceiver multi-function chip, frequency range is 14 – 18GHz, it integrates switch, clipper, LNA, gain is 24dB, noise figure is 2.8dB, transmitter channel RF switching insertion loss is 1.5dB, and transmitter output power at P-1 is 31dBm. It is designed by Gallium Arsenide (GaAs) process. This chip is designed with ground through metal vias on the back technology. All chip products p are 100% RF tested.

Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
VD	Drain voltage	+7V	
Pin	Max. Input Signal Power	12dBm	
Tch	Operation Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N_2 protection
Tstg	Storage Temperature	-65 ~ +150°C	

[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G_R	Receiver gain	VD = +5V F : 14 ~ 18GHz VR = 0V VT = -5V	-	24	-	dB
NF	Receiver noise figure		-	2.8	-	dB
$VSWR_{RX}$	Receiver input standing wave		-	1.8	-	-
$VSWR_{RX}$	Receiver output standing wave		-	1.8	-	-
$P_{R\text{-}1dB}$	Receiver output power at P-1 point		-	8	-	dBm
I	Receiver current		-	25	-	mA
IL	Transmitter insertion loss	VD = 0V F : 14 ~ 18GHz VR = -5V VT = 0V	-	1.5	-	dB
$VSWR_{TX}$	Transmitter input standing wave		-	1.8	-	-
$VSWR_{TX}$	Transmitter output standing wave		-	1.8	-	-
$P_{T\text{-}1dB}$	Transmitter output power at P-1 point		-	31	-	dBm

Please see appendix A for details.