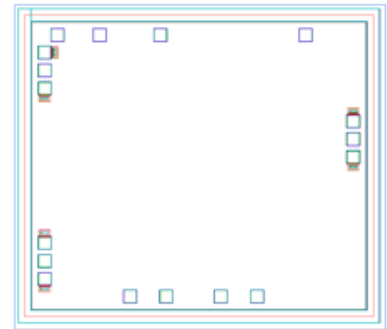**AMT1314**
6 - 18GHz Transceiver Integrated Multi-Function Chip

Key Features :

- Frequency range : 8 – 12GHz
- Receiver gain : 28dB
- Receiver noise : 2.6dB
- Receiver clipper endurance power : 33dBm
- Receiver input/output standing wave : 1.8
- Receiver output power at P-1 : 1dBm
- Transmitter saturated output power : 30.5dBm
- Transmitter additive efficiency PAE : 37%
- Transmit input/output standing wave : 1.8
- Chip dimensions : 2.88mm x 2.5mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1314 is a high performance transceiver multi-function chip, frequency range is 6 – 18GHz, it integrates switch and bi-directional power amplifier, receiver gain is 19dB, noise figure is 4dB, transmitter gain is 19.5dB, and transmitter output power at P-1 is 18dBm. 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.

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Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G_R	Receiver gain	VD = +5V F : 8 ~ 12GHz VR = 0V VT = -5V	-	28	-	dB
NF	Receiver noise figure		-	2.6	-	dB
$VSWR_{RX}$	Receiver input standing wave		-	1.8	-	-
$VSWR_{RX}$	Receiver output standing wave		-	1.8	-	-
P_{R-1dB}	Receiver output power at P-1 point		-	1	-	dBm
I	Receiver current		-	22	-	mA
Psat	Transmit saturated output power	VD = +5V VG = -0.5V F : 8 ~ 12GHz VR = -5V VT = 0V	-	1.5	-	dB
$VSWR_{TX}$	Transmitter input standing wave		-	1.8	-	-
$VSWR_{TX}$	Transmitter output standing wave		-	1.8	-	-
Gp	Transmit power gain		-	25	-	dB
PAE	Transmitter additive efficiency		-	37	-	%

Please see appendix A for details.