

Specification are subject to change without notice.

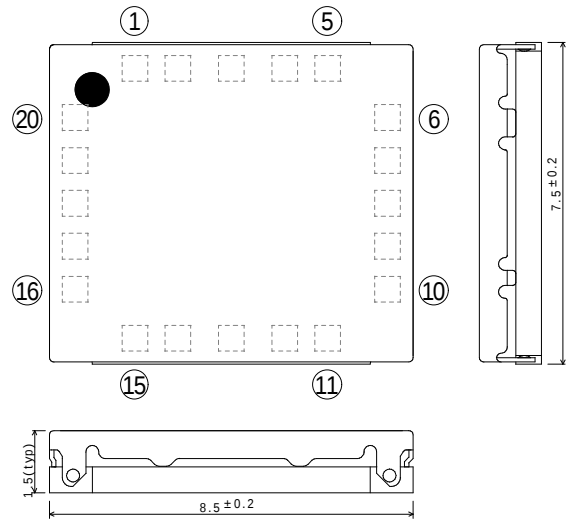
DESCRIPTION

BA01303 is a front-end module for triple band (EGSM900/DCS1800/PCS1900) handheld phone using InGaP HBT technology.

FEATURES

- Low voltage operation
Vc=3.5V
- High output power
Po=33.0dBm(min.) @f=880 - 915MHz
Po=30.0dBm(min.) @f=1710 - 1785MHz
Po=30.0dBm(min.) @f=1850 - 1910MHz
- Single voltage operation
- Single power control terminal
- Band select switch
- Tx/Rx select switch
- Surface mount package
- 3 Stage amplifier
- 50ohms matched
- ESD capability >±8kV (@ANT pin)
- GPRS class12 compatible

OUTLINE DRAWING

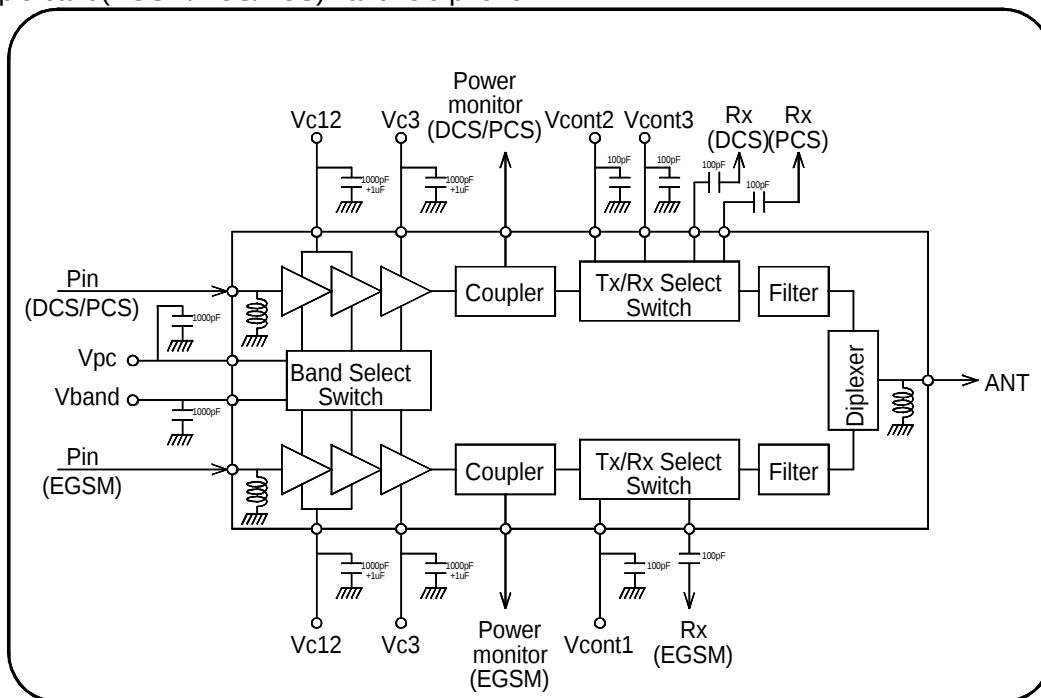


1. Vc(Vc12)	8. Vcont3	15. Vc(Vc12)
2. Vc(Vc3)	9. ANT	16. Pin(EGSM)
3. GND	10. Vcont2	17. Vband
4. Power Monitor (DCS/PCS)	11. Vcont1	18. GND
5. Rx(EGSM)	12. Power Monitor (EGSM)	19. Vpc
6. Rx(DCS)	13. GND	20. Pin(DCS/PCS)
7. Rx(PCS)	14. Vc(Vc3)	

Unit : mm
Terminal metal : AgPt

APPLICATION

Triple band(EGSM/DCS/PCS) handheld phone.



Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable , but there is always the possibility that trouble may occur with them . Trouble with semiconductors may lead to personal injury , fire or property damage . Remember to give due consideration to safety when making your circuit designs , with appropriate measures such as (i) placement of substitutive , auxiliary circuits , (ii) use of non-flammable material or (iii) prevention against any malfunction or mishap .

ABSOLUTE MAXIMUM RATINGS (Ta=25deg.C)

Symbol	Parameter	Ratings	Unit
Vc	Supply voltage	7	V
Vpc	Power control voltage	3	V
Vband	External voltage for band select	3	V
Pin	Input power	10	dBm
Tc(op)	Operating case temperature	-30 - +85	deg.C
Tstg	Storage temperature	-40 - +100	deg.C

Note: Each maximum rating is guaranteed independently under pulse operation (duty cycle 4:8).

ELECTRICAL CHARACTERISTICS (Ta=25deg.C)

(Tx mode) Vc=3.5V, Po=33/30dBm, Pin=3dBm, Vcont(1/2)=2.6V, Vpc<2.6V, Duty cycle 2:8

Parameter	Symbol	Condition		Limits			Unit
				MIN	TYP	MAX	
Frequency range(Tx)	f		EGSM	880	-	915	MHz
			DCS/PCS	1710	-	1910	
Supply voltage	Vc			3.1	3.5	4.5	V
Output power	Po	Vc=3.5V, Vpc=2.6V Pin=3dBm, Vcont=2.6V	EGSM	33.0	33.5	-	dBm
			DCS/PCS	30.0	30.5	-	
Efficiency	Eff		EGSM	38	43	-	%
			DCS/PCS	30	35	-	
Control voltage range	Vpc			0.2	-	2.6	V
Power control current	Ipc			-	4.0	5.5	mA
Band select current	Iband	Vband=2.6V		-	0.7	1.2	mA
Harmonics	2 - 14fo		EGSM	-	-	-33	dBm
	2 - 7fo		DCS	-	-	-33	
	2 - 6fo		PCS	-	-	-33	
Leakage current	Ileak	Vc=4.5V, Vpc=0V No input power		-	10	40	uA
Coupling value	Pm		EGSM	18.5	20.0	21.5	dBc
			DCS/PCS	12.5	14.0	15.5	
Isolation for Rx	Prx		Rx(EGSM) port	-	-	15	dBm
			Rx(DCS/PCS) port	-	-	13	
Isolation 1	Iso1	Vpc=0V, Vcont=2.6V		-	-	-38	dBm
Isolation 2	Iso2	Vpc=0V, Vcont=0V		-	-	-50	dBm
Rx noise power	Np		EGSM(@935MHz)	-	-	-82	dBm/ 100kHz
			DCS/PCS	-	-	-75	
Switching time	ts			-	-	2	usec
Stability	OSC	Vc=3.5V, Vpc=0.2 - 2.6V Load VSWR=10:1 (all phase)	No oscillation more than -36dBm				
Frequency range(Rx)	f		EGSM	925	-	960	MHz
			DCS	1805	-	1880	
			PCS	1930	-	1990	
Insertion loss (Rx)	IL	Vcont1,2,3=0V	EGSM	-	1.1	1.3	dB
		Vcont1,2,3=0V	DCS	-	1.3	1.5	
		Vcont1,2=0V, Vcont3=2.6V	PCS	-	1.3	1.5	

OPERATION MODES AND CONTROL SIGNALS

PACKAGE OUTLINE

