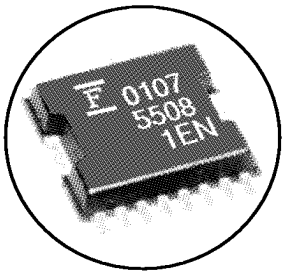
FMM5508ZE

1800MHz Band GaAs Power Amplifier MMIC

DESCRIPTION

The FMM5508ZE contains a three-stage amplifier that is designed for 4.8V PCN/PCS applications in the 1710-1785MHz and 1850-1910MHz frequency range. This product is well suited for applications where high power, high efficiency, low noise power, and single power supply are required.



ZE PACKAGE

FEATURES

- **Single Supply** Voltage Operation (Enhancement Mode)
- No Negative Voltage Generator
- Low Leakage Current Eliminates Drain Switch
- Low Rth
- Small Size: SSOP-16 **Plastic** package for SMT applications

ELECTRICAL CHARACTERISTICS (PCN pulsed operation Pin=+5dBm,Tc=25°C, $V_{DD1, 2, 3}$=+4.8V, $V_{GG2, 3}$=+4.8V)

Item	Symbol	Conditions	Limits			Unit
			Min.	Typ.	Max.	
Frequency	f		1710 1850	- -	1785 1910	MHz
Drain Cutoff Current	I_{off}	Vapc=0V, Pin=Off	-	-	40	μA
Control Voltage Range	Vapc		0.2	-	3.5	V
Output Power-1 (Note 1, 2, 3)	Pout1	Vapc=3.5V	32.5	-	-	dBm
Output Power-2 (Note 1, 2, 3)	Pout2	VDD1, 2, 3=4.3V Vapc=3.5V, Tc=85°C	30.5	-	-	dBm
Total Efficiency **(Note 1, 2, 3)**	nT	Pout=32.5dBm at APC controlled	33	-	-	%
Harmonics up to 12GHz **(Note 1, 2, 3)**	nHD		-	-	-30	dBc
Input Return Loss **(Note1, 2, 3)**	S11		-	-	-6	dB
Isolation (Note 1, 2, 3)	Piso	Vapc=0.2V	-	-	-28	dBm
Stability (Note 1, 2, 3)		Pout≤=32.5dBm at Vapc controlled, VDD1, 2, 3=6.0V, Load VSWR ≤ 6:1, All phase	All spurious output more than 60dB below the fundamental signal level			
Load Mismatch (Note 1, 2, 3)		Vapc=3.5V, VDD1, 2, 3=6.0V, Load VSWR ≤ 20:1, All phase 10 sec.	No damage to MMIC			
Noise Power (Note 1, 2, 3)	Pnp	20MHz above f, B.W. = 100KHz	-	-	-80	dBm
Thermal Resistance	Rth		-	-	8	°C/W

CASE STYLE: ZE

Note 1: Measured with a Fujitsu test fixture containing external matching circuits optimized for operation with $Z_S=Z_L=50\Omega$.
Note 2: Measured at the RF_{in} and RF_{out} connectors of the Fujitsu test fixture.
Note 3: Pulsed operation: ton=600μsec, toff=4200μsec

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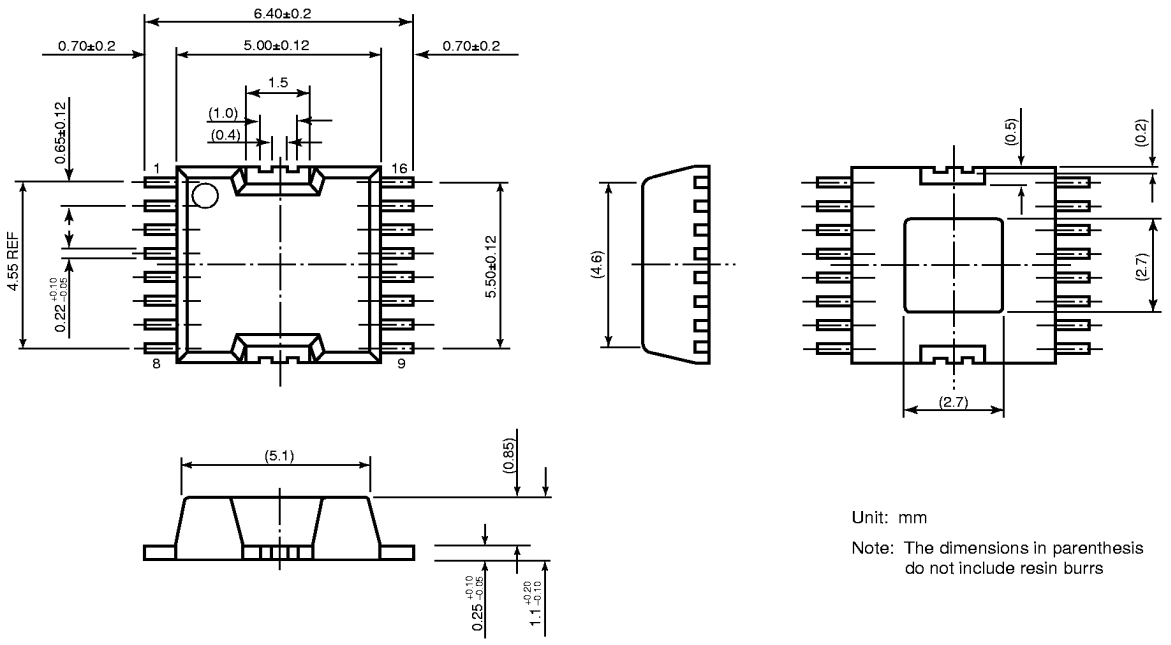
August 1997

ABSOLUTE MAXIMUM RATINGS (Case Temperature Tc=25°C)

Parameter	Symbol	Condition	Rating	Unit
Drain Voltage	V_{DD}		10	V
Gate Voltage	V_{GG}		10	V
Power Control Voltage	Vapc		5	V
Storage Temperature	T_{stg}		-55 to +145	°C
Total Power Dissipation	P_T		5	W
Channel Temperature	T_{ch}		+145	°C

Case Style "ZE"



Unit: mm

Note: The dimensions in parenthesis do not include resin burrs

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