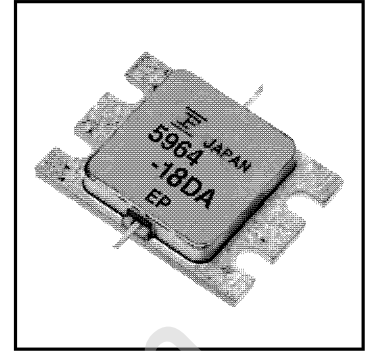


FEATURES

- High Output Power: $P_{1dB} = 42.5\text{dBm}$ (Typ.)
- High Gain: $G_{1dB} = 8.5\text{dB}$ (Typ.)
- High PAE: $\eta_{add} = 31\%$ (Typ.)
- Low $IM_3 = -45\text{dBc}@P_o = 31.5\text{dBm}$
- Broad Band: 5.9 ~ 6.4GHz
- Impedance Matched $Z_{in}/Z_{out} = 50\Omega$
- Hermetically Sealed Package



DESCRIPTION

The FLM5964-18DA is a power GaAs FET that is internally matched for standard communication bands to provide optimum power and gain in a 50 ohm system.

Fujitsu's stringent Quality Assurance Program assures the highest reliability and consistent performance.

ABSOLUTE MAXIMUM RATING (Ambient Temperature $T_a=25^\circ\text{C}$)

Item	Symbol	Condition	Rating	Unit
Drain-Source Voltage	V_{DS}		15	V
Gate-Source Voltage	V_{GS}		-5	V
Total Power Dissipation	P_T	$T_C = 25^\circ\text{C}$	83.3	W
Storage Temperature	T_{stg}		-65 to +175	$^\circ\text{C}$
Channel Temperature	T_{ch}		175	$^\circ\text{C}$

Fujitsu recommends the following conditions for the reliable operation of GaAs FETs:

1. The drain-source operating voltage (V_{DS}) should not exceed 10 volts.
2. The forward and reverse gate currents should not exceed 13.0 and -11.6 mA respectively with gate resistance of 25Ω .

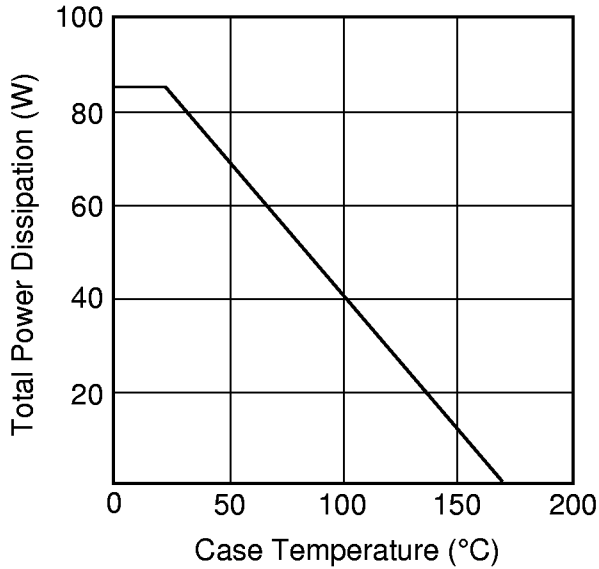
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	8.7	13.0	mA
Transconductance	g_m	$V_{DS} = 5\text{V}, I_{DS} = 480\text{mA}$	-	4000	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 5\text{V}, I_{DS} = 480\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -480\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10\text{V},$ $I_{DS} = 0.55 I_{DSS}$ (Typ.), $f = 5.9 \sim 6.4 \text{GHz},$ $Z_S = Z_L = 50 \text{ohm}$	41.5	42.5	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		7.5	8.5	-	dB
Drain Current	I_{dsr}		-	4800	6000	mA
Power-added Efficiency	η_{add}		-	31	-	%
Gain Flatness	ΔG		-	-	± 0.6	dB
3rd Order Intermodulation Distortion	IM_3		$f = 6.4 \text{GHz}, \Delta f = 10 \text{MHz}$ 2-Tone Test $P_{out} = 31.5\text{dBm S.C.L.}$	-42	-45	-
Thermal Resistance	R_{th}	Channel to Case	-	1.6	1.8	$^\circ\text{C/W}$
Channel Temperature Rise	ΔT_{ch}	$10\text{V} \times I_{dsr} \times R_{th}$	-	-	80	$^\circ\text{C}$

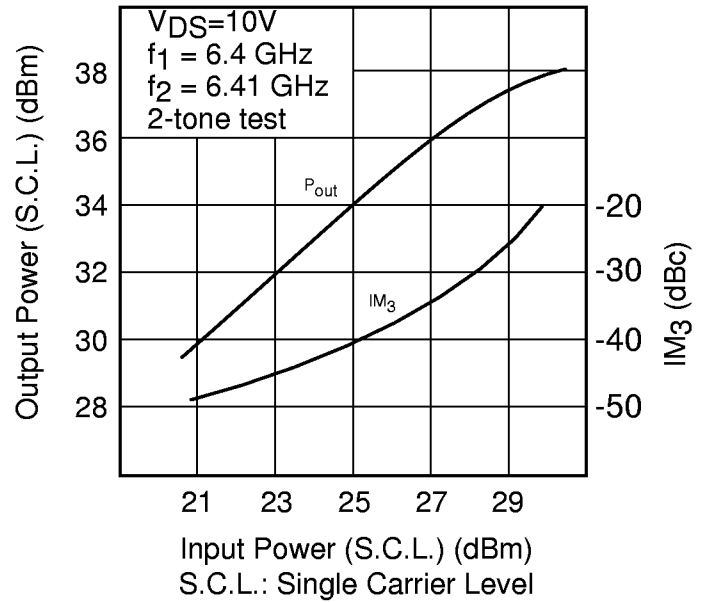
CASE STYLE: IK

G.C.P.: Gain Compression Point, S.C.L.: Single Carrier Level

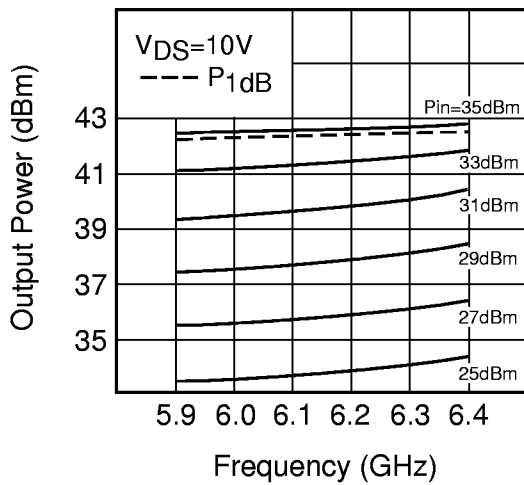
POWER DERATING CURVE



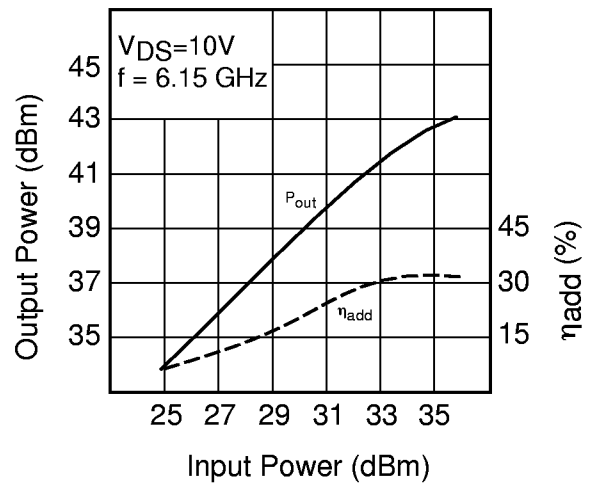
OUTPUT POWER & IM₃ vs. INPUT POWER



OUTPUT POWER vs. FREQUENCY

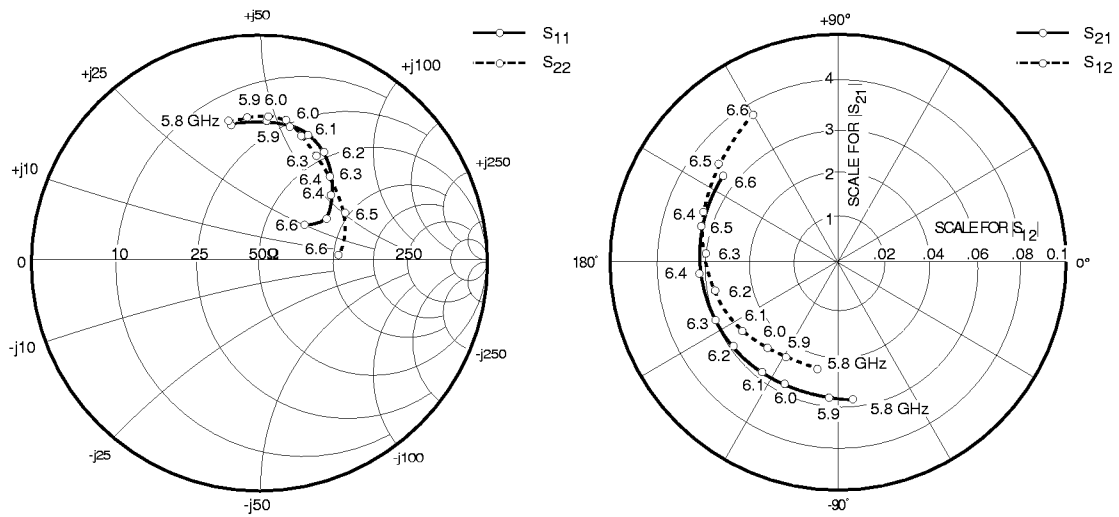


OUTPUT POWER vs. INPUT POWER



FLM5964-18DA

Internally Matched Power GaAs FETs

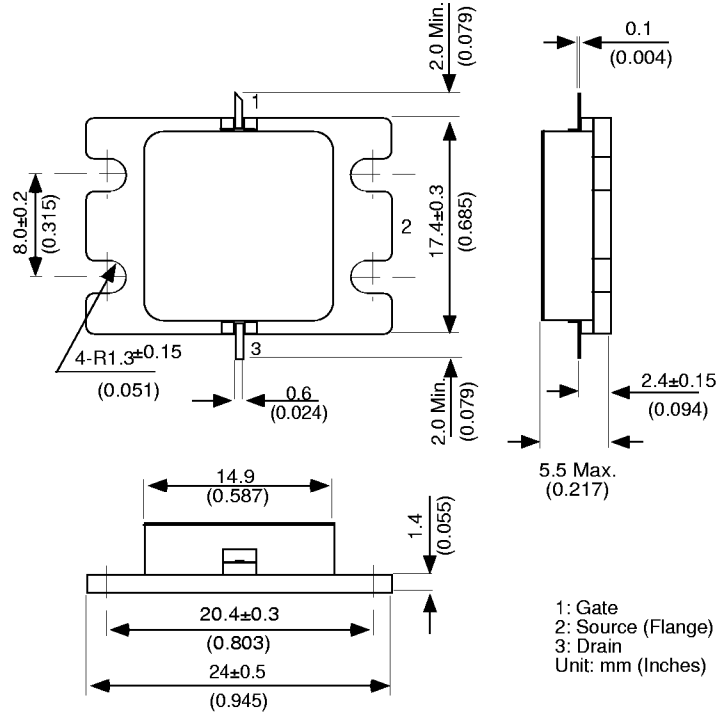


S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 4800mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
5800	.504	98.7	2.884	-84.4	.046	-113.2	.509	102.0
5900	.509	87.4	2.859	-98.2	.048	-127.4	.518	94.6
6000	.506	77.3	2.855	-111.9	.050	-140.8	.519	87.3
6100	.492	67.6	2.899	-126.1	.053	-153.3	.512	79.8
6200	.464	58.0	2.973	-140.9	.056	-168.7	.492	70.9
6300	.417	48.6	3.003	-156.8	.061	176.3	.456	60.3
6400	.348	39.5	3.206	-174.4	.065	159.5	.409	47.2
6500	.252	33.3	3.314	166.4	.070	140.9	.336	30.3
6600	.147	41.7	3.365	145.1	.074	120.7	.240	6.1

Case Style "IK"
 Metal-Ceramic Hermetic Package



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