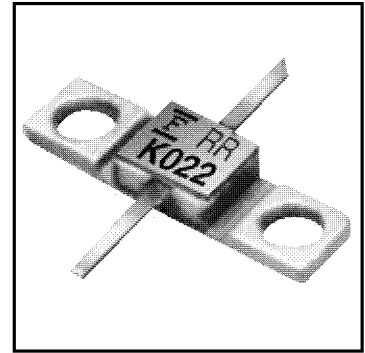


FEATURES

- High Output Power: $P_{1dB} = 24.0\text{dBm(Typ.)}$
- High Gain: $G_{1dB} = 7.0\text{dB(Typ.)}$
- High PAE: $\eta_{add} = 32\%\text{(Typ.)}$
- Proven Reliability
- Hermetic Metal/Ceramic Package



DESCRIPTION

The FLK022WG is a power GaAs FET that is designed for general purpose applications in the Ku-Band frequency range as it provides superior power, gain, and efficiency.

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	$T_C = 25^\circ\text{C}$	1.875	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 0.5 and -0.1 mA respectively with gate resistance of 2000Ω .

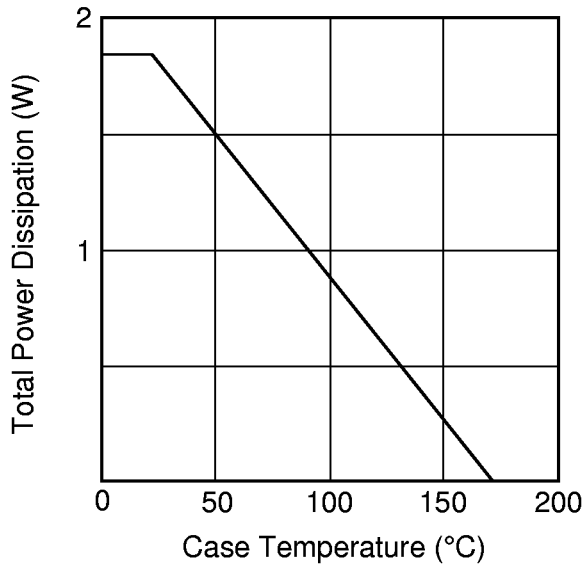
ELECTRICAL CHARACTERISTICS (Ambient Temperature $T_a=25^\circ\text{C}$)

Item	Symbol	Test Conditions	Limit			Unit
			Min.	Typ.	Max.	
Saturated Drain Current	I_{DSS}	$V_{DS} = 5\text{V}, V_{GS} = 0\text{V}$	-	100	150	mA
Transconductance	g_m	$V_{DS} = 5\text{V}, I_{DS} = 65\text{mA}$	-	50	-	mS
Pinch-off Voltage	V_p	$V_{DS} = 5\text{V}, I_{DS} = 5\text{mA}$	-1.0	-2.0	-3.5	V
Gate Source Breakdown Voltage	V_{GSO}	$I_{GS} = -5\mu\text{A}$	-5	-	-	V
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10\text{V}, I_{DS} = 0.6 I_{DSS} \text{(Typ.)}, f = 14.5 \text{GHz}$	23.0	24.0	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		6.0	7.0	-	dB
Power-added Efficiency	η_{add}		-	32	-	%
Output Power at 1dB G.C.P.	P_{1dB}	$V_{DS} = 10\text{V}, I_{DS} = 0.6 I_{DSS} \text{(Typ.)}, f = 12 \text{GHz}$	-	24	-	dBm
Power Gain at 1dB G.C.P.	G_{1dB}		-	8	-	dB
Power-added Efficiency	η_{add}		-	34	-	%
Thermal Resistance	R_{th}	Channel to Case	-	40	80	$^\circ\text{C/W}$

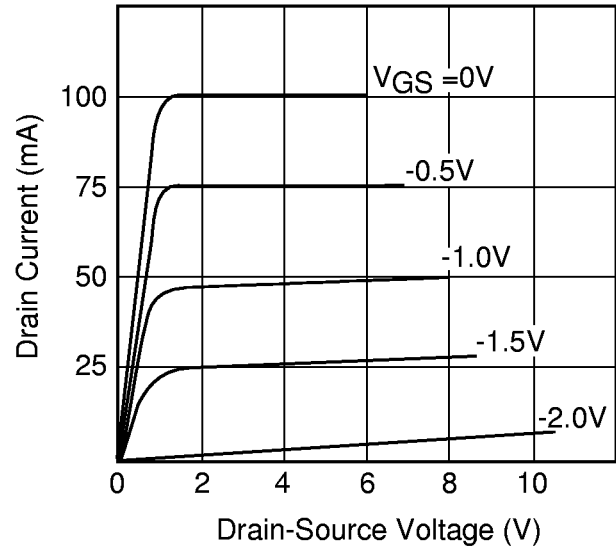
CASE STYLE: WG

G.C.P.: Gain Compression Point

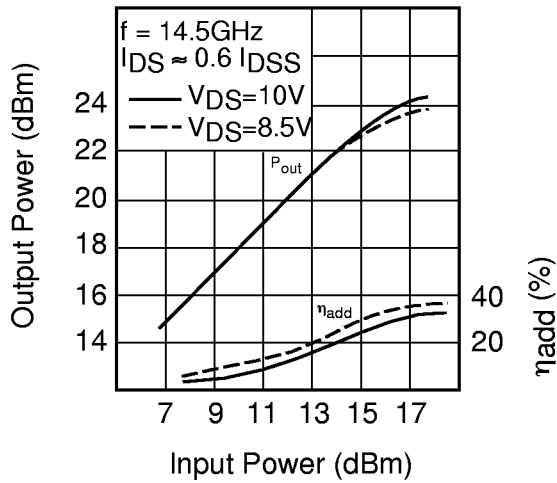
POWER DERATING CURVE



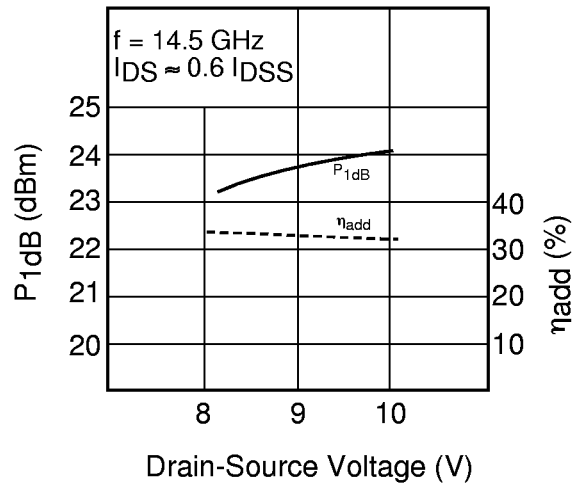
DRAIN CURRENT vs. DRAIN-SOURCE VOLTAGE

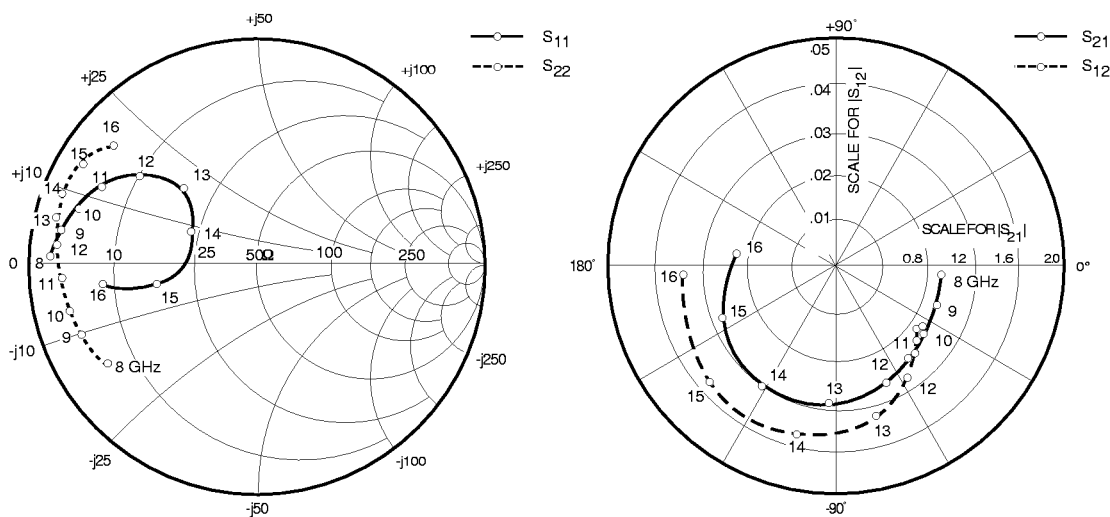


OUTPUT POWER vs. INPUT POWER



P_{1dB} & η_{add} vs. V_{DS}



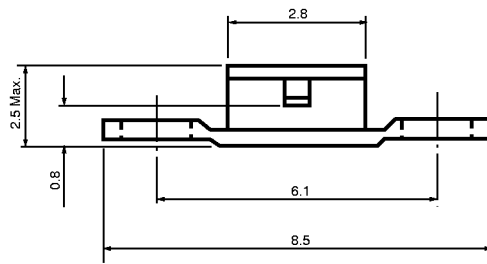
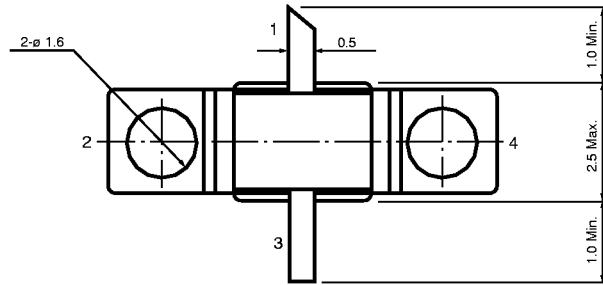


S-PARAMETERS

$V_{DS} = 10V, I_{DS} = 65mA$

FREQUENCY (MHZ)	S11		S21		S12		S22	
	MAG	ANG	MAG	ANG	MAG	ANG	MAG	ANG
500	.975	-27.7	3.236	158.8	.010	66.5	.687	-14.1
1000	.967	-52.0	3.023	140.1	.018	54.4	.681	-26.0
8000	.898	177.9	.982	-4.7	.022	-33.7	.801	-144.6
9000	.880	169.5	.937	-19.7	.022	-35.6	.835	-156.1
10000	.840	161.5	.924	-35.0	.023	-40.03	.850	166.5
11000	.787	153.6	.947	-50.6	.024	-45.8	.858	176.3
12000	.703	145.9	1.022	-68.8	.027	-55.6	.876	175.4
13000	.552	140.1	1.136	-92.6	.032	-74.7	.906	166.7
14000	.366	156.1	1.191	-122.3	.037	-103.9	.924	158.5
15000	.471	-171.0	1.098	-156.3	.037	-140.2	.899	149.0
16000	.696	-172.6	.877	173.1	.333	-175.3	.844	140.9

Case Style "WG"
 Metal-Ceramic Hermetic Package



- 1. Gate
 - 2. Source
 - 3. Drain
 - 4. Source
- Unit: mm (inches)