

2SK649

GaAs N Channel MES Type

For KU band low-power low-noise amplification and oscillation

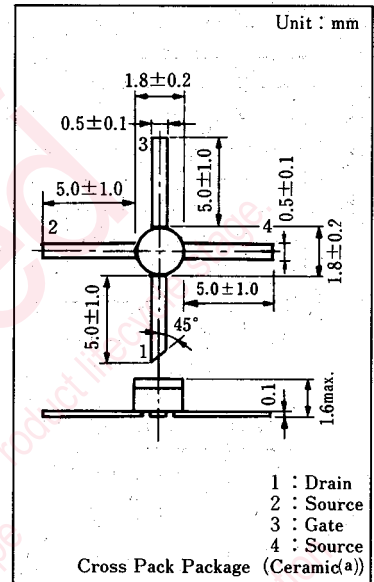
■ Features

- High maximum effective power gain MAG

■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Gate-Drain Voltage	V_{GDO}	-6	V
Gate-Source Voltage	V_{GSO}	-6	V
Drain-Source Voltage	V_{DS}	6	V
Drain Current	I_D	100	mA
Drain Power Dissipation	P_D	200	mW
Channel Temperature	T_{ch}	125	°C
Storage Temperature	T_{stg}	-65 ~ +125	°C

■ Package Dimensions

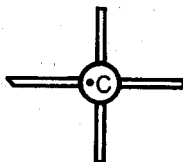


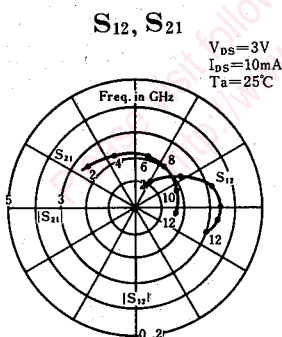
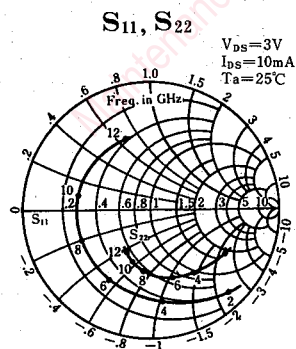
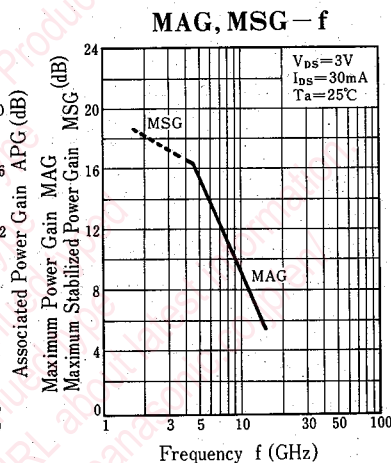
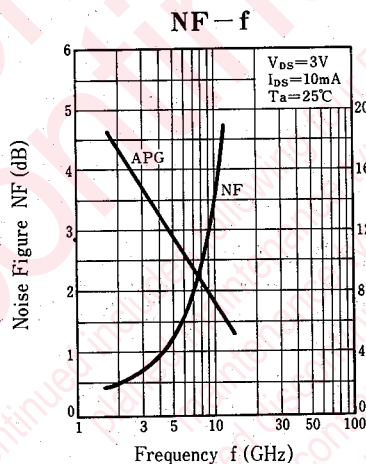
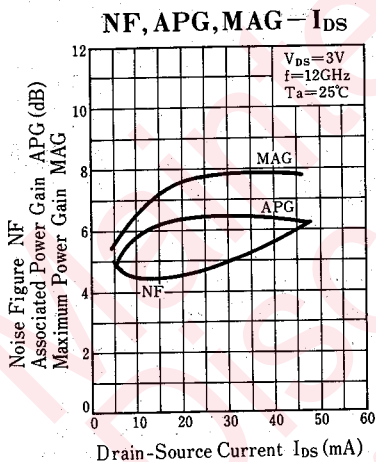
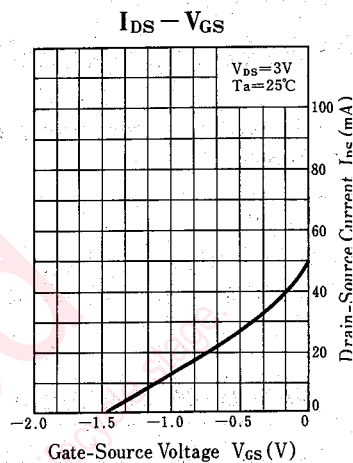
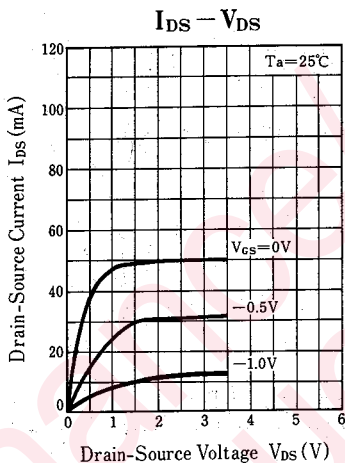
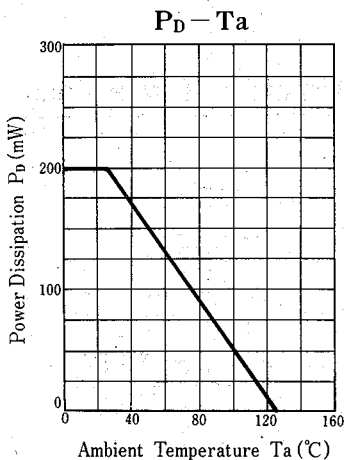
Marking : C

■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Condition	min.	typ.	max.	Unit
Drain Current	I_{DSS}	$V_{DS} = 3V, V_{GS} = 0$	40	50	80	mA
Gate Cutoff Current	I_{GSS}	$V_{GS} = -3V$			-10	μA
Drain-Source Current	V_{DSX}	$V_{DS} = 6V, V_{GS} = -3.5V$			200	μA
Gate-Source Cutoff Voltage	V_{GSC}	$V_{DS} = 3V, I_{DS} = 100\mu A$		-1.5	-3.5	V
Gate-Source Voltage	V_{GSS}	$I_G = -100\mu A$	-6			V
Mutual Conductance	g_m	$V_{DS} = 3V, I_{DS} = 10mA, f = 1kHz$	20	40	100	mS
Associated Power Gain	APG	$V_{DS} = 3V, I_{DS} = 10mA, f = 12GHz$		6		dB
Noise Figure	NF			4.5		dB
Maximum Power Gain	MAG	$V_{DS} = 3V, I_{DS} = 30mA, f = 12GHz$	5			dB

■ Type Name Marking





(S-Parameter Model Exemplary)

(Measurement condition: $V_{DS} = 3\text{V}$, $I_{DS} = 10\text{mA}$, $T_a = 25^\circ\text{C}$)

Frequency (GHz)	S_{11}		S_{21}		S_{12}		S_{22}	
	(dB)	(deg.)	(dB)	(deg.)	(dB)	(deg.)	(dB)	(deg.)
2	-0.8	-45	8.2	142	-23.2	60	-3.9	-31
3	-1.8	-66	7.8	127	-20.2	47	-4.6	-43
4	-2.4	-88	6.9	111	-19.3	38	-4.9	-57
5	-3.0	-105	6.6	93	-18.1	33	-5.3	-66
6	-4.4	-120	6.2	80	-17.2	24	-6.5	-76
7	-4.4	-138	5.5	64	-17.1	6	-6.8	-88
8	-4.0	-156	5.1	52	-16.8	1	-6.1	-98
9	-5.0	-177	4.6	37	-17.4	-6	-6.8	-104
10	-5.0	169	4.4	23	-17.7	-9	-7.0	-110
11	-5.5	142	4.5	9	-18.3	-14	-7.5	-116
12	-3.5	109	3.8	8	-18.3	-20	-8.9	-122

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