

# 2SK653

## GaAs N Channel MES Type

For high-frequency wide-bandwidth low-noise amplification

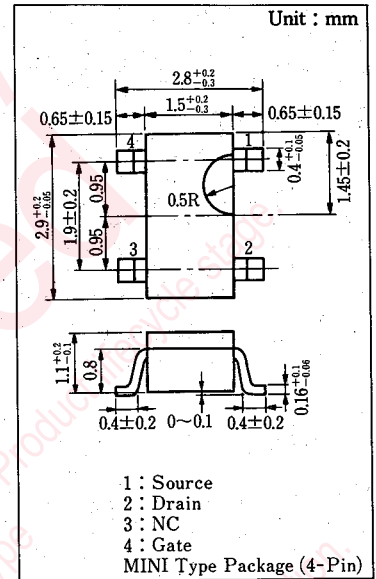
### ■ Features

- Wide bandwidth (50-1000MHz)
- Low noise
- Low distortion characteristics

### ■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	5	V
Gate-Source Voltage	$V_{GS}$	-4	V
Drain Current	$I_D$	50	mA
Gate Current	$I_G$	1	mA
Power Dissipation	$P_D$	200	mW
Channel Temperature	$T_{ch}$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C

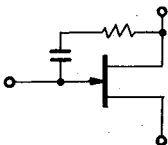
### ■ Package Dimensions



### ■ Electrical Characteristics (Ta=25°C)

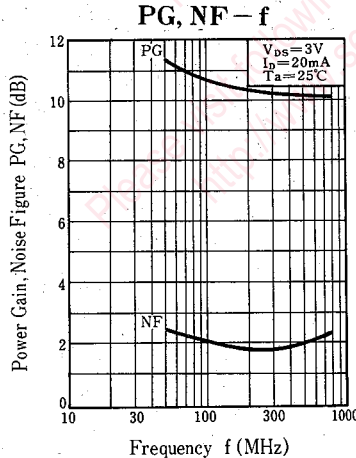
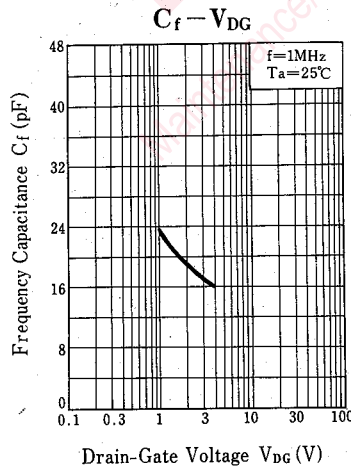
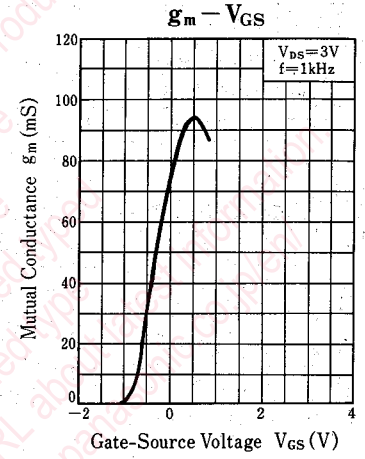
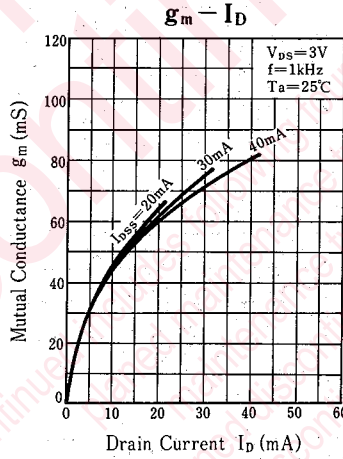
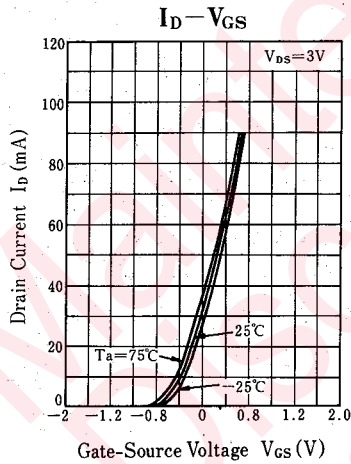
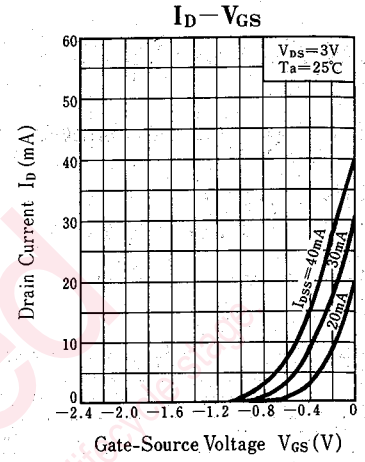
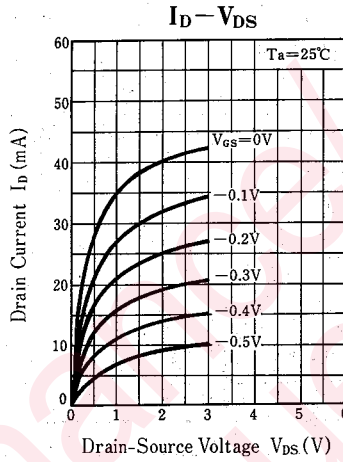
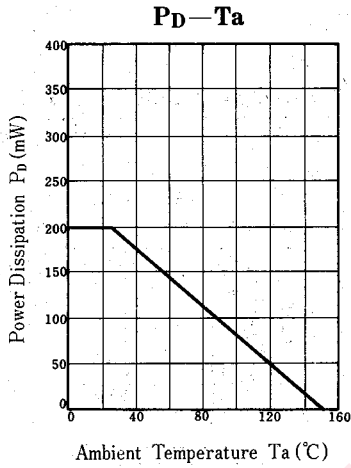
Item	Symbol	Condition	min.	typ.	max.	Unit
Drain Current	$I_{DSS}^*$	$V_{DS}=3V, V_{GS}=0$	15		50	mA
Source Current	$I_{DSX}$	$V_{DS}=5V, V_{GS}=-3V$			50	$\mu A$
Gate Cutoff Current	$I_{GSS}$	$V_{GS}=-3V, V_{DS}=0$			80	$\mu A$
Gate-Source Cutoff Voltage	$V_{GSC}$	$V_{DS}=3V, I_{DS}=0.5mA$			-4	V
Mutual Conductance	$g_m$	$V_{DS}=3V, I_{DS}=20mA$	40	75		mS
Power Gain	$PG_1$	$V_{DS}=3V, I_{DS}=20mA, f=800MHz$	6	8		dB
	$PG_2$	$V_{DS}=3V, I_{DS}=20mA, f=600MHz$	7	9		
	$PG_3$	$V_{DS}=3V, I_{DS}=20mA, f=50MHz$	10	13		
Noise Figure	$NF_1$	$V_{DS}=3V, I_{DS}=20mA, f=800MHz$			5	dB
	$NF_2$	$V_{DS}=3V, I_{DS}=20mA, f=600MHz$		2.5	3.2	
	$NF_3$	$V_{DS}=3V, I_{DS}=20mA, f=50MHz$		2.7	3.5	

### ■ Equivalent Circuit



### ■ Type Name Marking





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