

Preliminary TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

2SK3079A

470 MHz Band Amplifier Applications

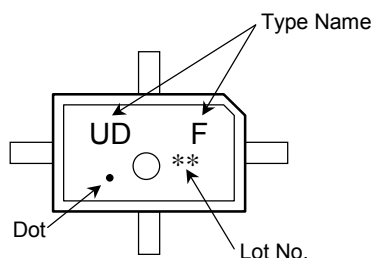
- Output power: $P_o = 33.50\text{dBmW}$ (2.2 W) (min)
- Gain: $G_p = 13.50\text{dB}$ (min)
- Drain Efficiency: $\eta_D = 50.0\%$ (min)

Maximum Ratings (Ta = 25°C)

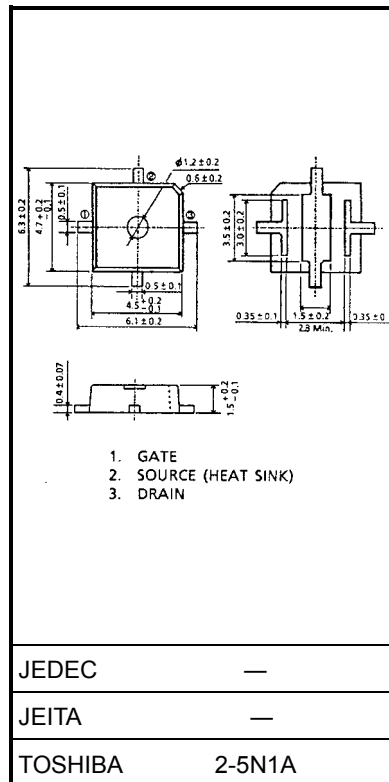
Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	10	V
Gate-source voltage	V_{GSS}	3	V
Drain current	I_D	3	A
Power dissipation	P_D (Note 1)	20.0	W
Channel temperature	T_{ch}	150	°C
Storage temperature range	T_{stg}	-45~150	°C

Note 1: $T_c = 25^\circ\text{C}$

Marking



Unit: mm



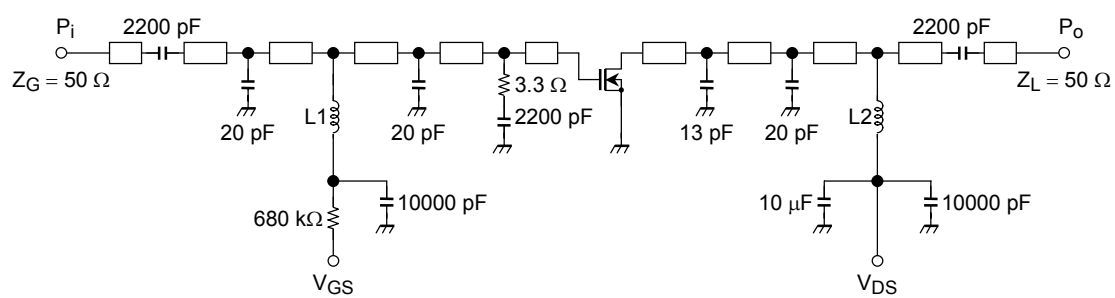
Electrical Characteristics (Ta = 25°C)

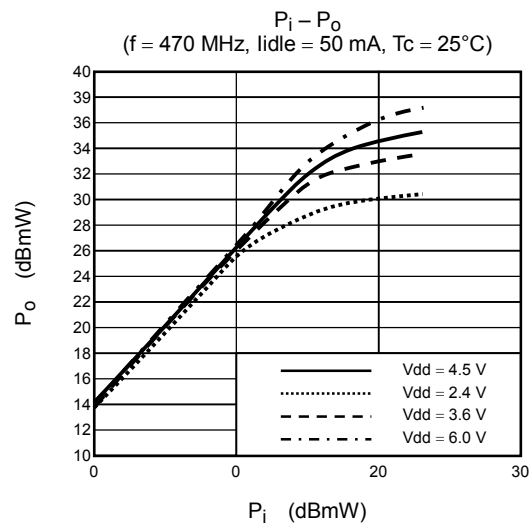
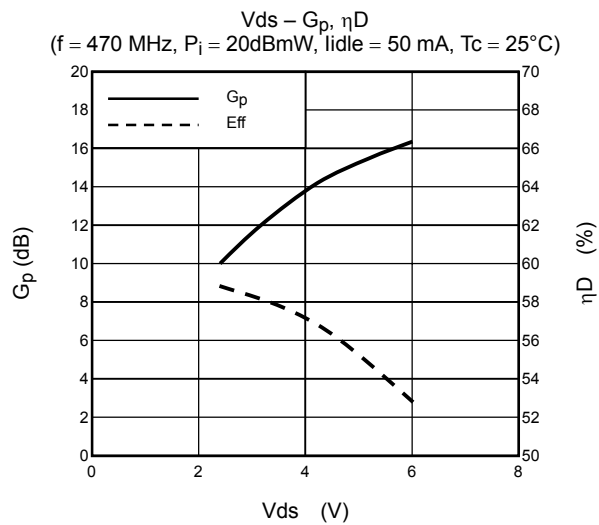
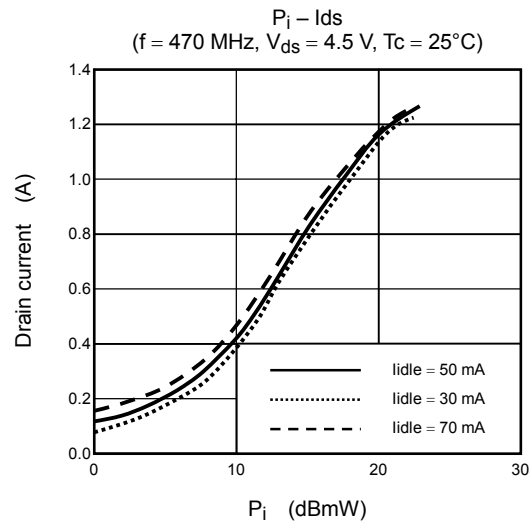
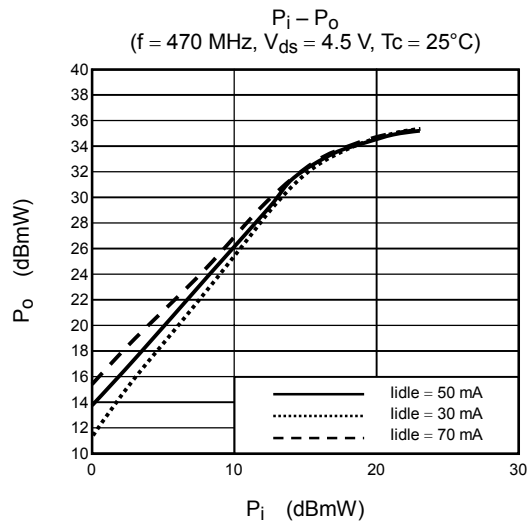
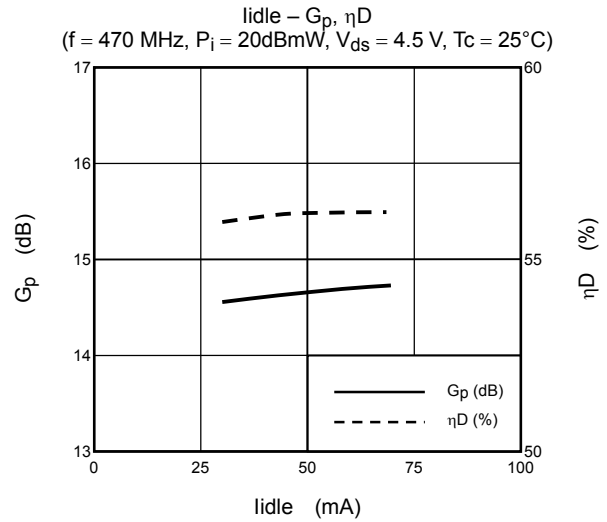
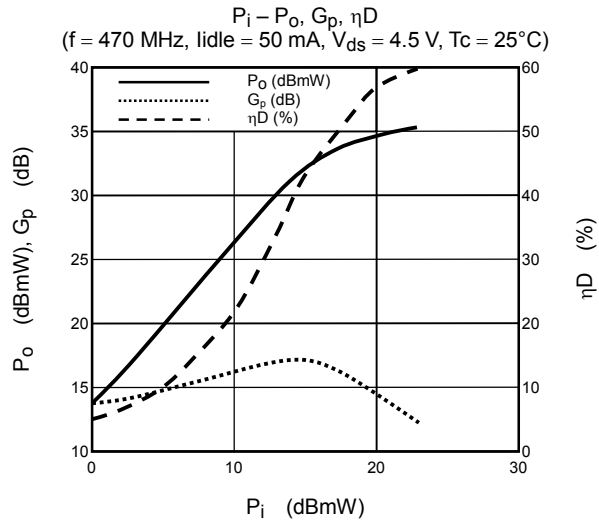
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Output power	P _O	V _{DS} = 4.5 V, I _{idle} = 50 mA (V _{GS} = adjust) f = 470 MHz, P _i = 20dBmW Z _G = Z _L = 50 Ω	33.5	—	—	dBmW
Drain efficiency	η _D		50.0	—	—	%
Power gain	G _p		13.5	—	—	dB
Threshold voltage	V _{th}	V _{DS} = 4.5 V, I _D = 0.5 mA	—	0.8	—	V
Drain cut-off current	I _{DSS}	V _{DS} = 10 V, V _{GS} = 0 V	—	—	10	μA
Gate-source leakage current	I _{GSS}	V _{GS} = 5 V, V _{DS} = 0 V	—	—	5	μA
Load mismatch (Note 2)	—	V _{DS} = 5 V, f = 470 MHz, P _i = 20dBmW, P _o = 33.5dBmW (V _{GS} = adjust) VSWR LOAD 10:1 all phase	No degradation			—

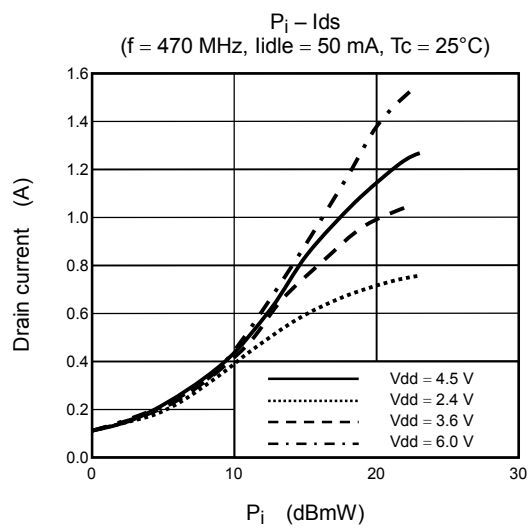
Caution: This is transistor the electrostatic sensitive device. Please handle with caution.

Note 2: When the RF output power test fixture is used

Test Circuit







Caution: These are typical curves and devices are not necessarily guaranteed at these curves.

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