

2SK3476

VHF- and UHF-band Amplifier Applications

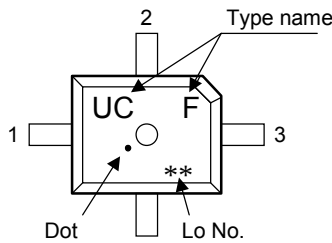
- Output power: $P_O = 7.0\text{ W}$ (min)
- Gain: $G_p = 11.4\text{ dB}$ (min)
- Drain efficiency: $\eta_D = 60\%$ (min)

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	20	V
Gain-source voltage	V_{GSS}	± 5	V
Drain current	I_D	3	A
Power dissipation	P_D (Note 1)	20	W
Channel temperature	T_{ch}	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-45\sim 150$	$^\circ\text{C}$

Note 1: $T_c = 25^\circ\text{C}$ (When mounted on a 1.6 mm glass epoxy PCB)

Marking

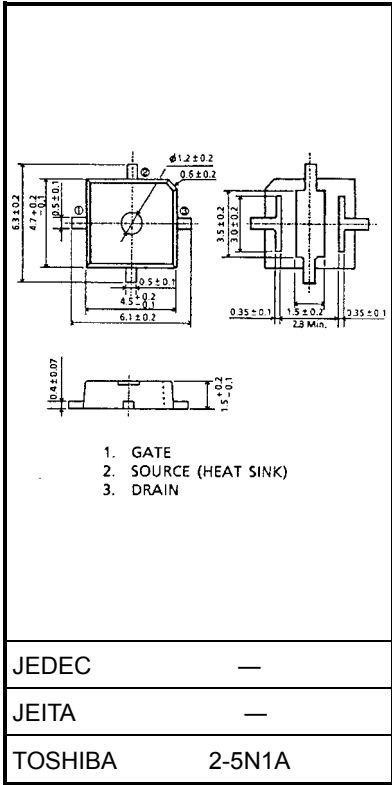


1. Gate
2. Source (heat sink)
3. Drain

Caution

Please take care to avoid generating static electricity when handling this transistor.

Unit: mm



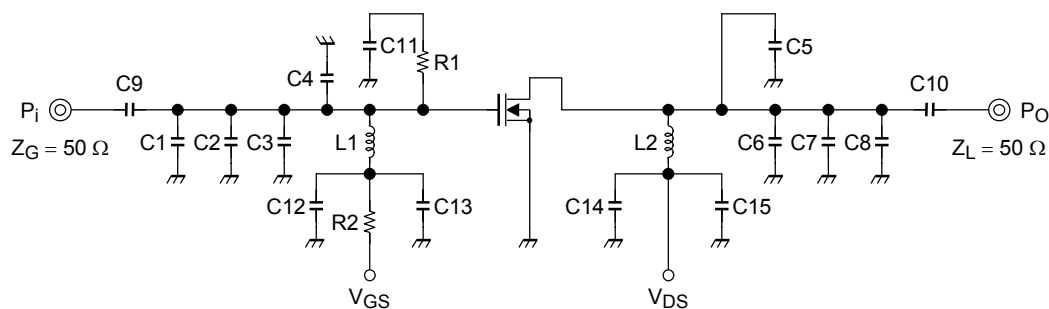
Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Drain cut-off current	I_{DSS}	$V_{DS} = 20\text{ V}$, $V_{GS} = 0\text{ V}$	—	—	5	μA
Gate-source leakage current	I_{GSS}	$V_{GS} = 10\text{ V}$	—	—	5	μA
Threshold voltage	V_{th}	$V_{DS} = 7.2\text{ V}$, $I_D = 2\text{ mA}$	0.55	1.05	1.55	V
Drain-source on-voltage	$V_{DS(ON)}$	$V_{GS} = 10\text{ V}$, $I_D = 75\text{ mA}$	—	18	—	mV
Forward transconductance	Y_{fs}	$V_{DS} = 7.2\text{ V}$, $I_{DS} = 1\text{ A}$	—	1	—	S
Input capacitance	C_{iss}	$V_{DS} = 7.2\text{ V}$, $V_{GS} = 0\text{ V}$, $f = 1\text{ MHz}$	—	53	—	pF
Output capacitance	C_{oss}	$V_{DS} = 7.2\text{ V}$, $V_{GS} = 0\text{ V}$, $f = 1\text{ MHz}$	—	49	—	pF
Output power	P_O	$V_{DS} = 7.2\text{ V}$, $I_{idle} = 500\text{ mA}$ ($V_{GS} = \text{adjust}$), $f = 520\text{ MHz}$, $P_i = 500\text{ mW}$,	7	—	—	W
Drain efficiency	η_D		60	—	—	%
Power gain	G_p		11.4	—	—	dB
Low voltage output power	P_{OL}	$V_{DS} = 6.0\text{ V}$, $I_{idle} = 500\text{ mA}$ ($V_{GS} = \text{adjust}$), $f = 520\text{ MHz}$, $P_i = 500\text{ mW}$,	5	—	—	W
Load mismatch	—	$V_{DS} = 10\text{ V}$, $P_O = 7\text{ W}$, $V_{GS} = \text{adjust}$, $P_i = \text{adjust}$, $f = 520\text{ MHz}$, VSWR LOAD 20:1 all phase	No degradation			

Note 1: These characteristic values are measured using measurement tools specified by Toshiba.

Output Power Test Fixture

(Test Condition: $f = 520\text{ MHz}$, $V_{DS} = 7.2\text{ V}$, $I_{idle} = 500\text{ mA}$, $P_i = 500\text{ mW}$)



C1: 15 pF

C2: 11 pF

C3: 9 pF

C4: 30 pF

C5: 30 pF

C6: 11 pF

C7: 8 pF

C8: 9 pF

C9: 2200 pF

C10: 2200 pF

C11: 2200 pF

C12: 10000 pF

C13: 10 μF

C14: 10000 pF

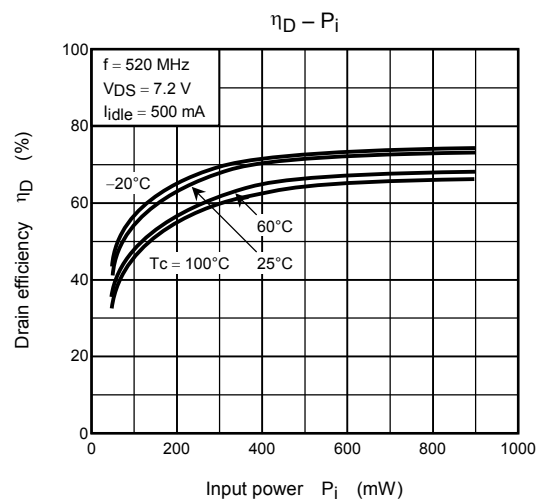
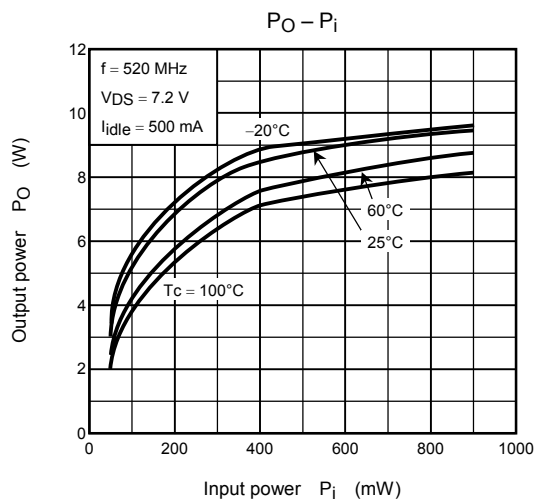
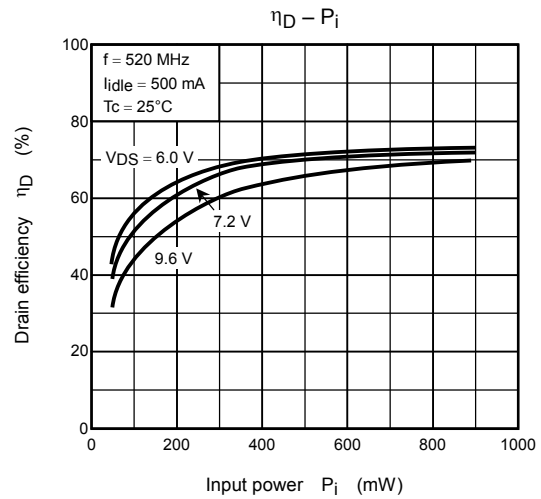
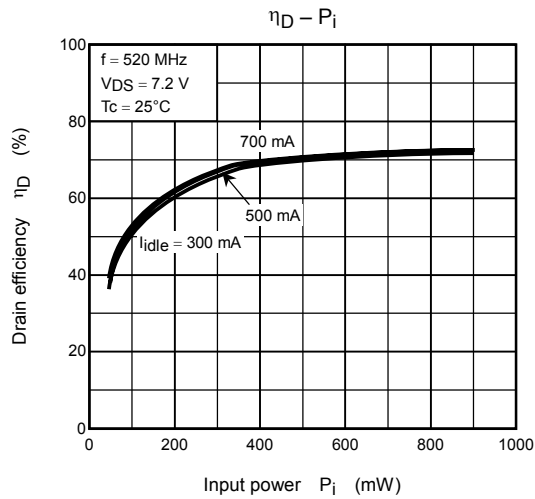
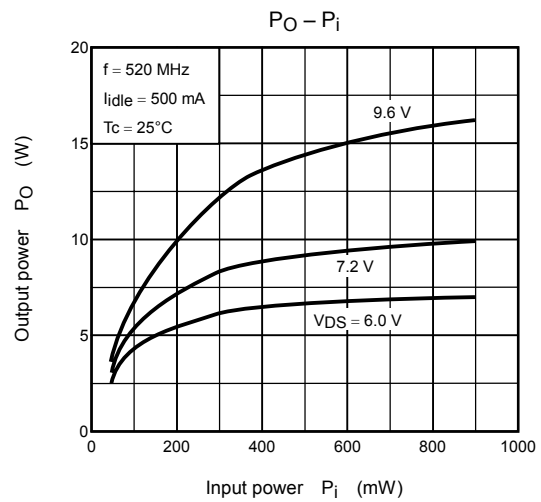
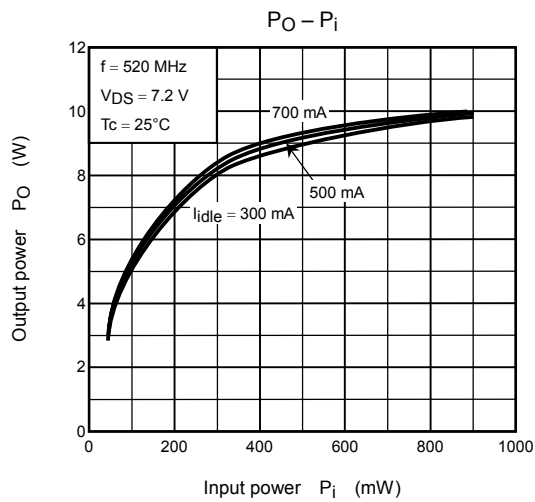
C15: 10 μF

L1: $\phi 0.6\text{ mm}$ enamel wire, 5.8ID, 4T

L2: $\phi 0.6\text{ mm}$ enamel wire, 5.8ID, 8T

R1: 2.2 Ω

R2: 1.5 k Ω



Note 2: These are only typical curves and devices are not necessarily guaranteed at these curves.

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