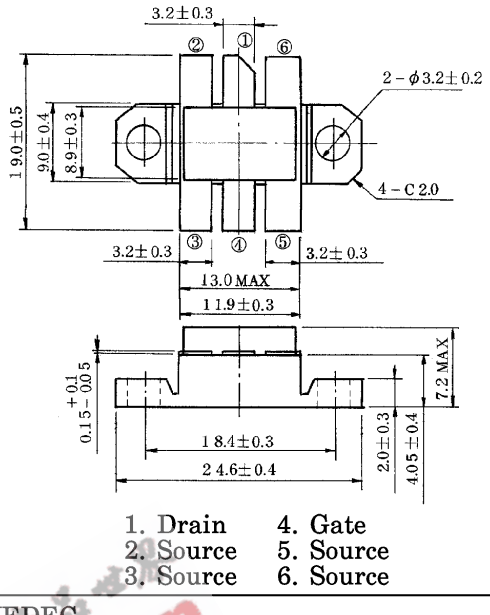
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK1028

RF POWER MOS FET
for VHF TV BROADCAST TRANSMITTER

Unit in mm

- Output Power : Po≧100W (Min.)
- Drain Efficiency : η_D=70% (Typ.)
- Frequency : f=230MHz



JEDEC	—
EIAJ	—
TOSHIBA	2-13D1A

Weight : 10g

MAXIMUM RATINGS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DSS}	100	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current	I_D	6	A
Reverse Drain Current	I_{DR}	6	A
Drain Power Dissipation	P_D	125	W
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Tc = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Output Power	Po	V_{DD}=50V, I_{idle}=0.2A	100	—	—	W
Drain Efficiency	η_D	Pi=5W, f=230MHz	—	70	—	%
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	I_D=10mA, V_{GS}=0	100	—	—	V
Drain Cut-off Current	I_{DSS}	V_{DS}=80V, V_{GS}=0	—	—	1.0	mA
Gate Threshold Voltage	V_{th}	I_D=1mA, V_{DS}=10V	0.5	—	3.0	V
Drain-Source ON Resistance	$R_{DS(on)}$	I_D=4A, V_{GS}=10V *	—	0.9	1.5	Ω
Drain-Source ON Voltage	$V_{DS(on)}$	I_D=4A, V_{GS}=10V *	—	3.6	6.0	V
Forward Transfer Admittance	|Yfs|	I_D=3A, V_{DS}=20V *	0.9	1.3	—	S
Input Capacitance	C_{iss}	V_{DS}=50V, V_{GS}=0 f=1MHz	—	100	—	pF
Output Capacitance	C_{oss}	V_{DS}=50V, V_{GS}=0 f=1MHz	—	40	—	pF
Reverse Transfer Capacitance	C_{rss}	V_{DS}=50V, V_{GS}=0 f=1MHz	—	1	—	pF

* Pulse Test

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

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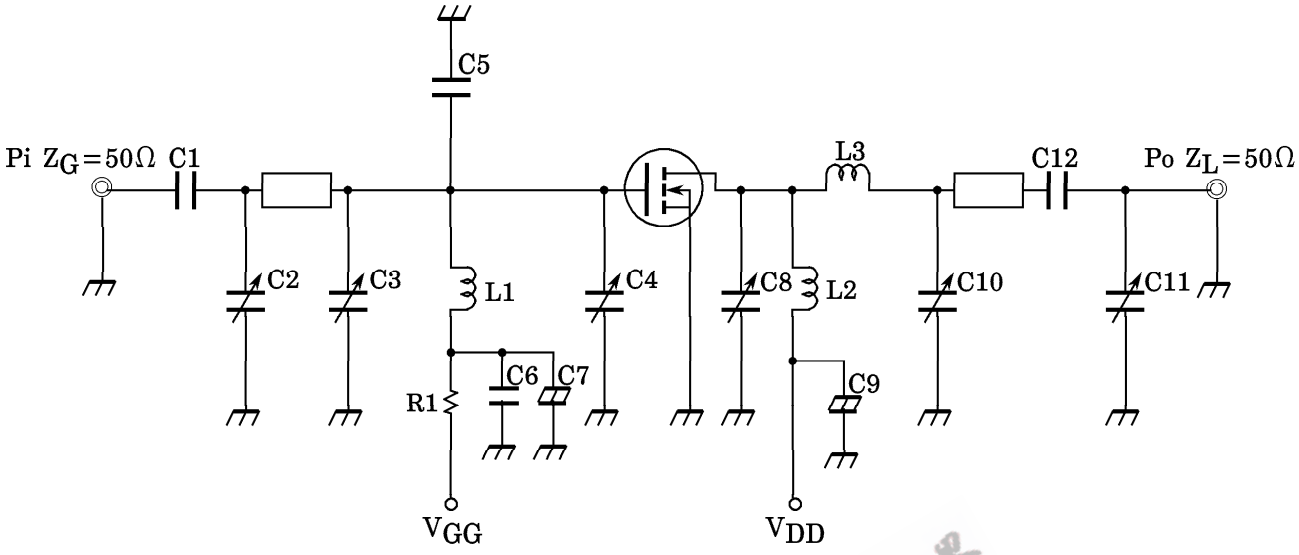
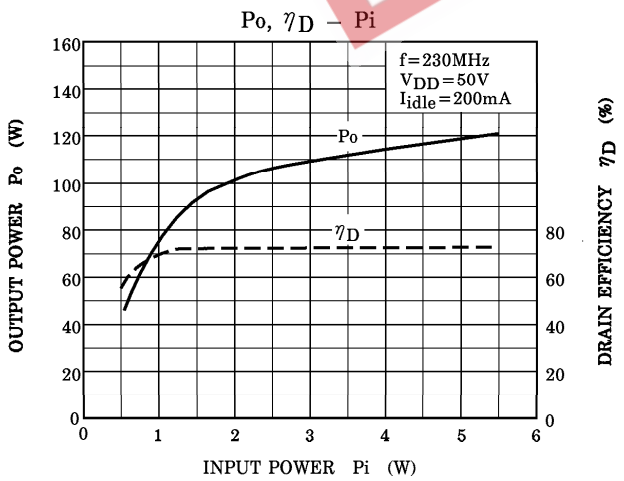
RF OUTPUT POWER TEST FIXTURE



C1, C12	:	4700pF	CERAMIC CAPACITOR
C2, C3, C4, C10, C11	:	~30pF	VARIABLE CAPACITOR
C5	:	47pF	CERAMIC CAPACITOR
C6	:	10,000pF	CERAMIC CAPACITOR
C7	:	10μF, 50V	ELECTROLYTIC CAPACITOR
C8	:	~5pF	VARIABLE CAPACITOR
C9	:	10μF, 250V	ELECTROLYTIC CAPACITOR
L1	:	9T, 6ID ø1.0	ENAMEL WIRE
L2	:	5T, 7ID ø1.0	ENAMEL WIRE
L3	:	0.5T, 3ID ø1.0	ENAMEL WIRE
R1	:	9.1kΩ	



CAUTION

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