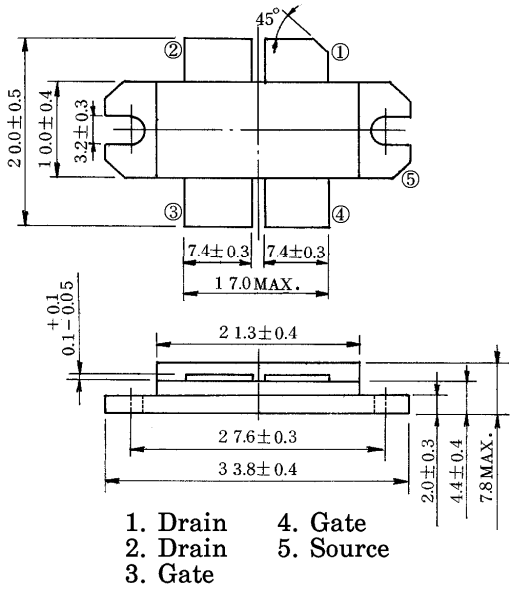
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK1310

RF POWER MOS FET
for VHF TV BROADCAST TRANSMITTER

Unit in mm

- Output Power : Po≧190W (Min.)
- Drain Efficiency : η_D=65% (Typ.)
- Frequency : f=230MHz
- Push - Pull Structure Package



JEDEC	—
EIAJ	—
TOSHIBA	2-22C1A

Weight : 17.5g

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	12	A
Reverse Drain Current	I_{DR}	12	A
Drain Power Dissipation	P_D	250	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×2	190	220	—	W
Drain Efficiency	η_D	Pi=10W, f=230MHz *	—	65	—	%
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

* Push-Pull Operation ** Pulse Test

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

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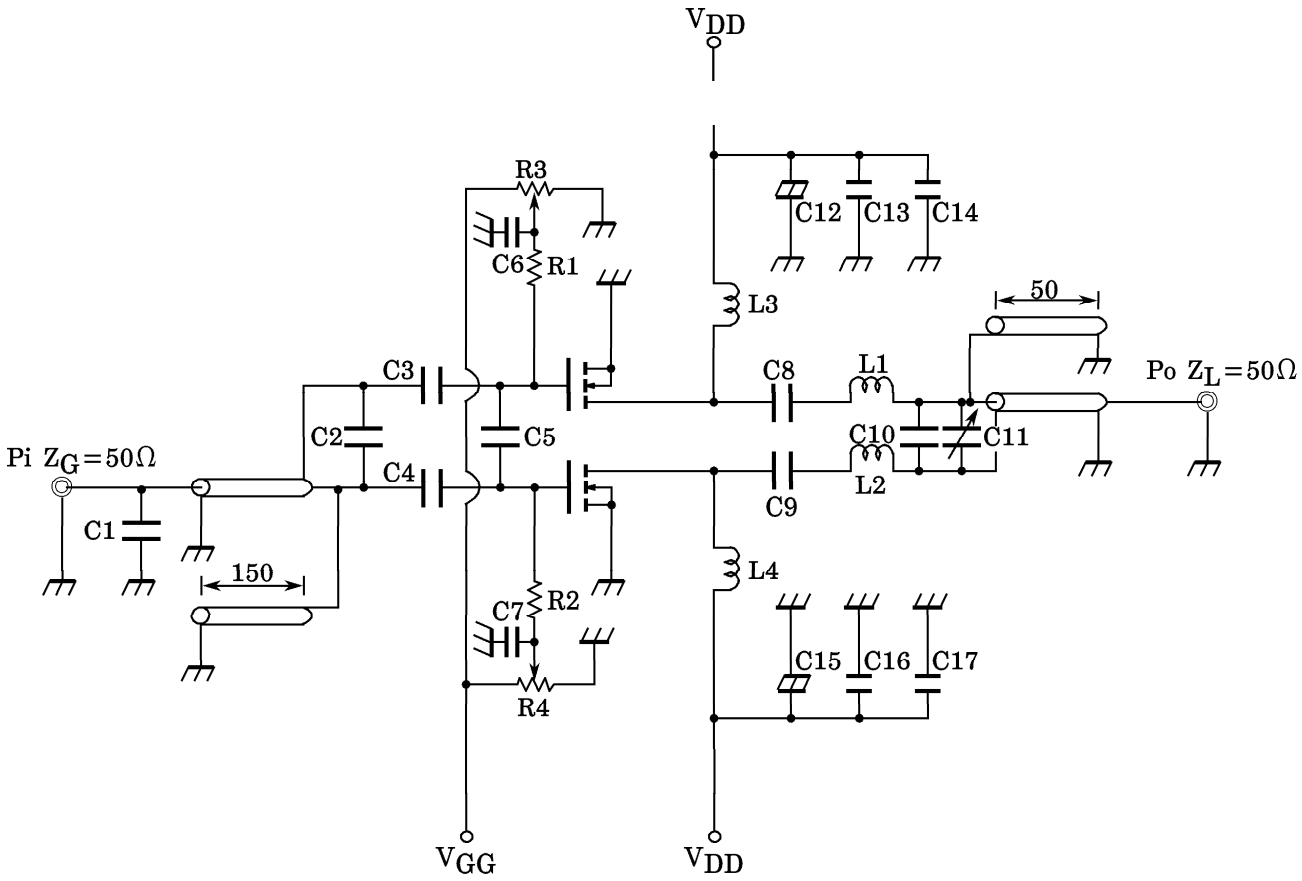
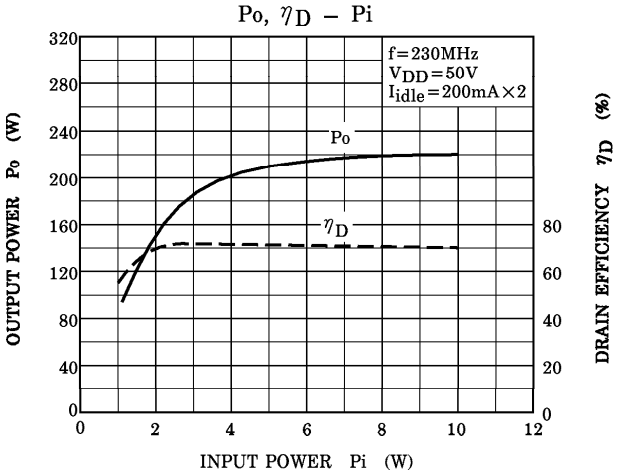
RF OUTPUT POWER TEST FIXTURE



C1	:	1pF	MICA CAPACITOR
C2	:	33pF×3 (PARALLEL)	MICA CAPACITOR
C3, C4, C8, C9, C13, C16	:	1000pF	MICA CAPACITOR
C5	:	33pF	MICA CAPACITOR
C6, C7	:	0.01μF×2 (PARALLEL)	CERAMIC CAPACITOR
C10	:	14pF	MICA CAPACITOR
C11	:	~20pF	AIR TRIMMER CAPACITOR
C12, C15	:	100μF, 100V	ELECTROLYTIC CAPACITOR
C14, C17	:	4700pF	CERAMIC CAPACITOR
L1, L2	:	0.5T, 5ID ø1.0	SILVER PLATED COPPER WIRE
L3, L4	:	3.0T, 5ID ø1.0	SILVER PLATED COPPER WIRE
R1, R2	:	220 Ω×2 (PARALLEL)	
R3, R4	:	1kΩ	VARIABLE RESISTOR



CAUTION

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