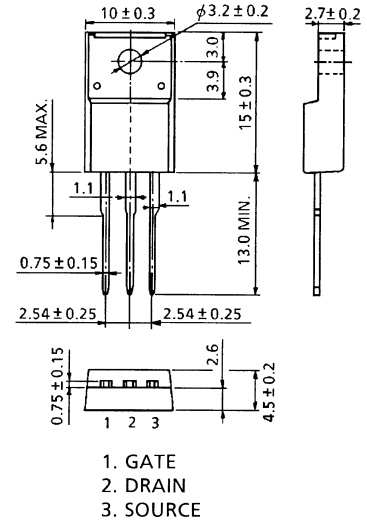
TOSHIBA Field Effect Transistor Silicon P Channel MOS Type

2SJ313

Audio Frequency Power Amplifier Application

- High breakdown voltage : V_{DSS} = −180 V
- High forward transfer admittance : $|Y_{fs}|$ = 0.7 S (typ.)
- Complementary to 2SK2013

Unit: mm



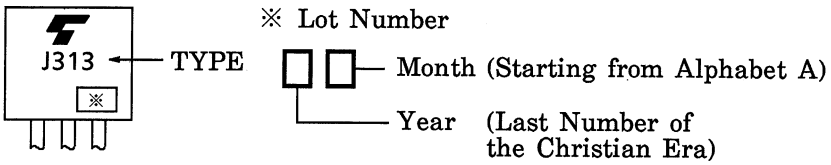
JEDEC	—
JEITA	SC-67
TOSHIBA	2-10R1B

Weight: 1.9 g (typ.)

Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain−source voltage	V_{DSS}	−180	V
Gate−source voltage	V_{GSS}	±20	V
Drain current (Note 1)	I_D	−1	A
Power dissipation (Tc = 25°C)	P_D	25	W
Channel temperature	T_{ch}	150	°C
Storage temperature range	T_{stg}	−55~150	°C

Marking



Electrical Characteristics (Ta = 25°C)

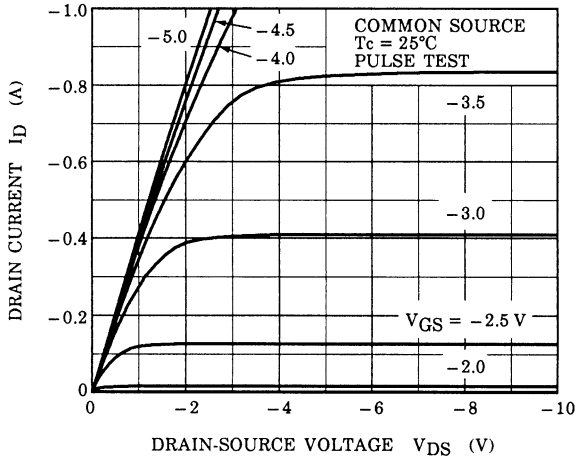
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current	I_{GSS}	V_{DS} = 0, V_{GS} = ±20 V	—	—	±100	nA
Drain−source breakdown voltage	$V_{(BR)\ DSS}$	I_D = −10 mA, V_{GS} = 0	−180	—	—	V
Gate−source cut−off voltage (Note 2)	$V_{GS\ (OFF)}$	V_{DS} = −10 V, I_D = −10 mA	−0.8	—	−2.8	V
Drain−source saturation voltage	$V_{DS\ (ON)}$	I_D = −0.6 A, V_{GS} = −10 V	—	−1.2	−3.0	V
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS} = −10 V, I_D = −0.3 A	—	0.7	—	S
Input capacitance	C_{iss}	V_{DS} = −10 V, V_{GS} = 0, f = 1 MHz	—	210	—	pF
Output capacitance	C_{oss}		—	90	—	
Reverse transfer capacitance	C_{rss}		—	45	—	

Note 1: Please use devices on condition that the channel temperature is below 150°C.

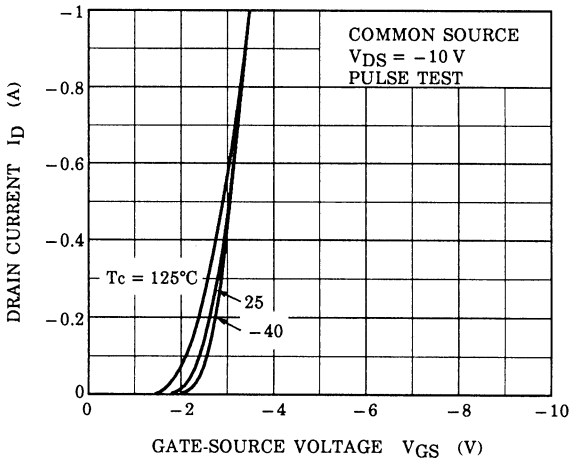
Note 2: $V_{GS\ (OFF)}$ Classification O: −0.8~−1.6, Y: −1.4~−2.8

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

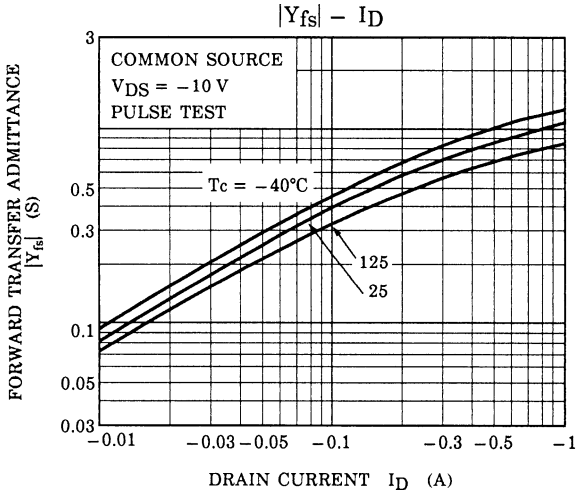
$I_D - V_{DS}$



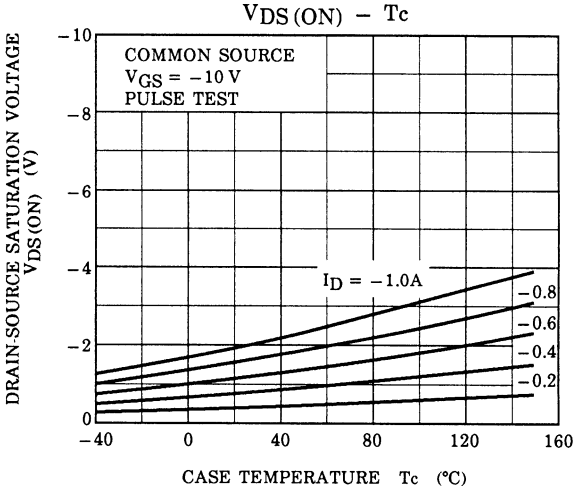
$I_D - V_{GS}$



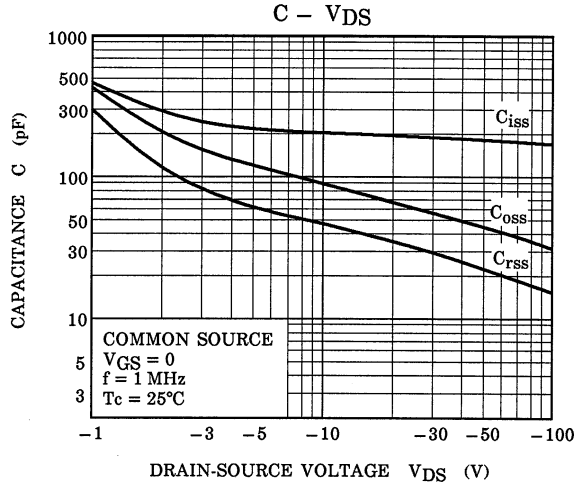
$|Y_{fs}| - I_D$



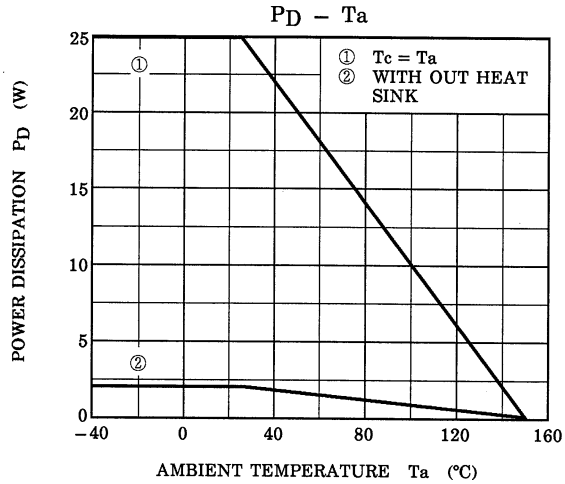
$V_{DS(ON)} - Tc$

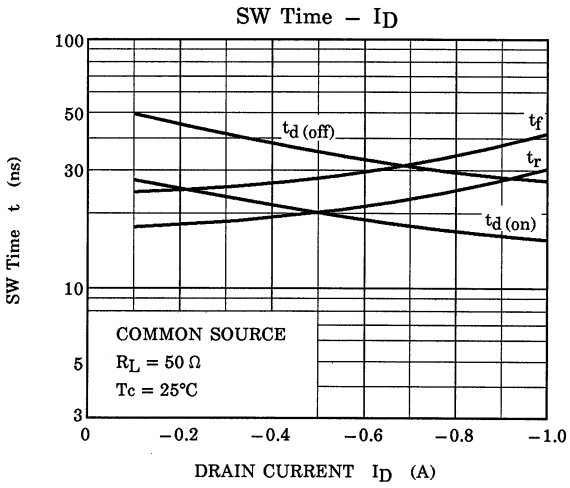


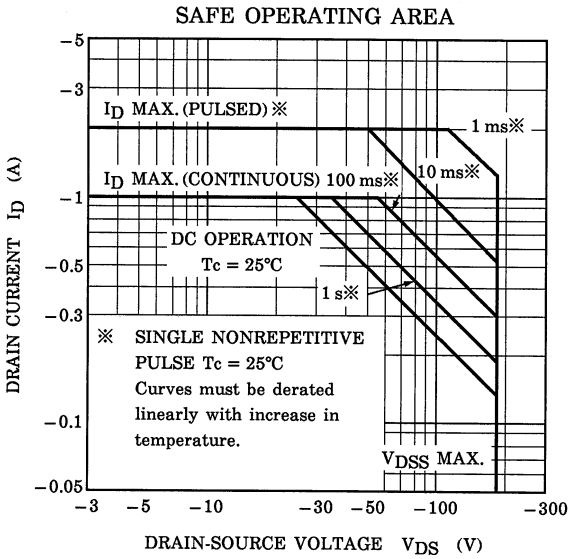
C – V_{DS}



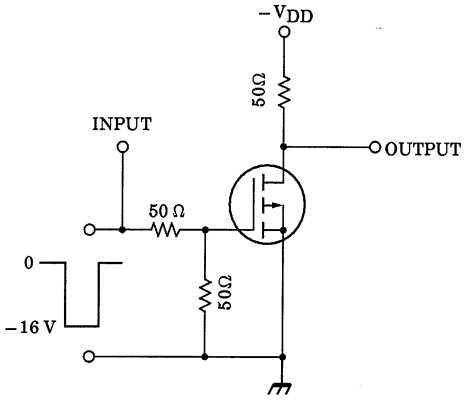
$P_D - Ta$



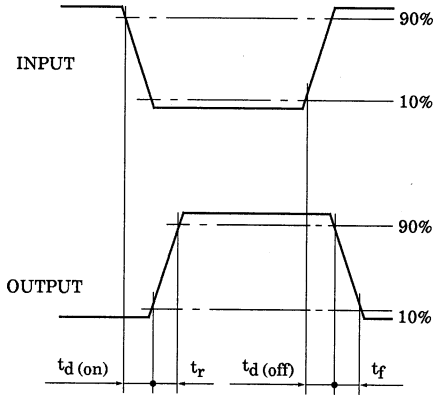




Test Circuit



Waveforms



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