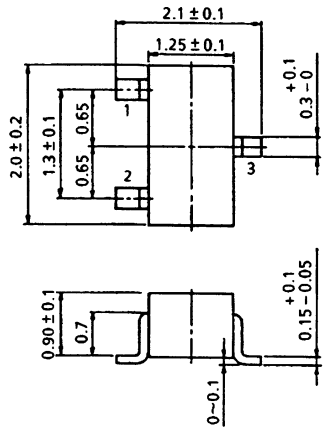
TOSHIBA Field Effect Transistor Silicon P Channel Junction Type

2SJ144

Audio Frequency Amplifier Applications
Analog Switch Applications
Constant Current Applications
Impedance Converter Applications

- High breakdown voltage: V_{GDS} = 50 V (min)
- High input impedance: I_{GSS} = 1.0 nA (max) (V_{GS} = 30 V)
- Low $R_{DS\ (ON)}$: $R_{DS\ (ON)}$ = 270 Ω (typ.) (I_{DSS} = −5 mA)
- Small package

Unit: mm



1. SOURCE
2. DRAIN
3. GATE

USM

JEDEC	—
JEITA	SC-70
TOSHIBA	2-2E1B

Weight: 0.006 g (typ.)

Maximum Ratings (Ta = 25°C)

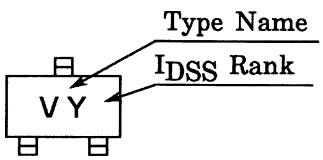
Characteristics	Symbol	Rating	Unit
Gate-drain voltage	V_{GDS}	50	V
Gate current	I_G	−10	mA
Drain power dissipation	P_D	100	mW
Junction temperature	T_j	125	°C
Storage temperature range	T_{stg}	−55~125	°C

Electrical Characteristics (Ta = 25°C)

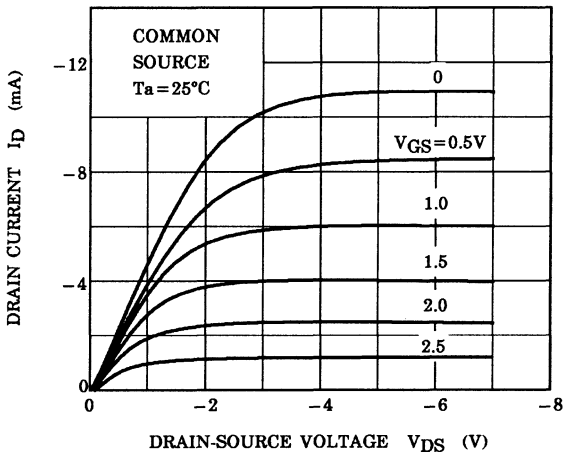
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate cut-off current	I_{GSS}	V_{GS} = 30 V, V_{DS} = 0	—	—	1.0	nA
Gate-drain breakdown voltage	$V_{(BR)\ GDS}$	V_{DS} = 0, I_G = 100 μA	50	—	—	V
Drain current	I_{DSS} (Note)	V_{DS} = −10 V, V_{GS} = 0	−1.2	—	−14	mA
Gate-source cut-off voltage	$V_{GS\ (OFF)}$	V_{DS} = −10 V, I_D = −0.1 μA	0.3	—	6.0	V
Forward transfer admittance	$\|Y_{fs}\|$	V_{DS} = −10 V, V_{GS} = 0, f = 1 kHz	1.0	4.0	—	mS
Drain-source on resistance	$R_{DS\ (ON)}$	V_{DS} = −10 mV, V_{GS} = 0 I_{DSS} = −5 mA	—	270	—	Ω
Input capacitance	C_{iss}	V_{DS} = −10 V, V_{GS} = 0, f = 1 MHz	—	18	—	pF
Reverse transfer capacitance	C_{rss}	V_{DG} = −10 V, I_D = 0, f = 1 MHz	—	3.6	—	pF

Note: I_{DSS} classification Y: −1.2~−3.0 mA, GR (G): −2.6~−6.5 mA, BL (L): −6~−14 mA

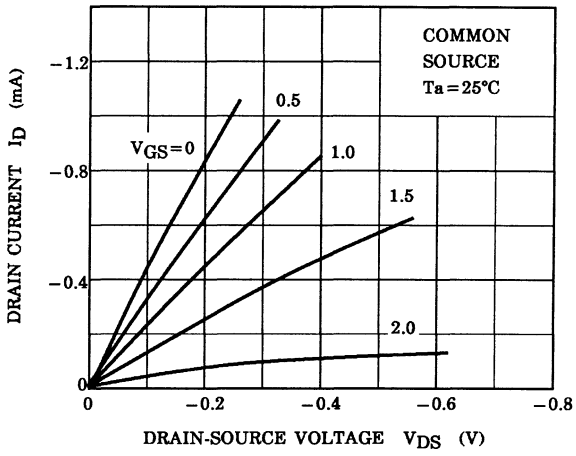
Marking



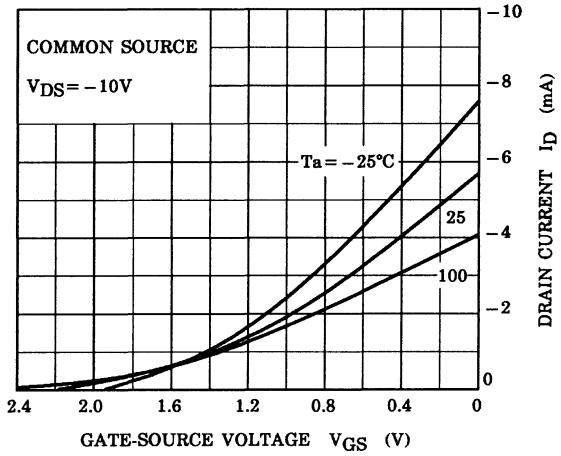
$I_D - V_{DS}$



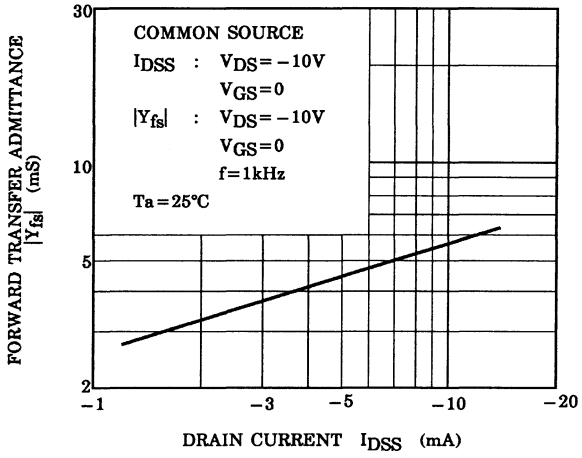
$I_D - V_{DS}$ (LOW VOLTAGE REGION)



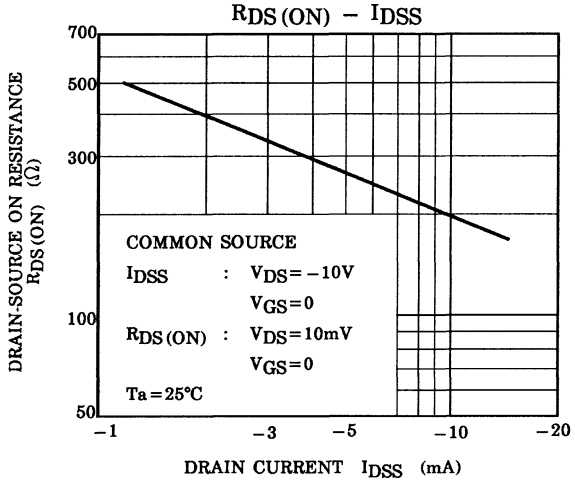
$I_D - V_{GS}$



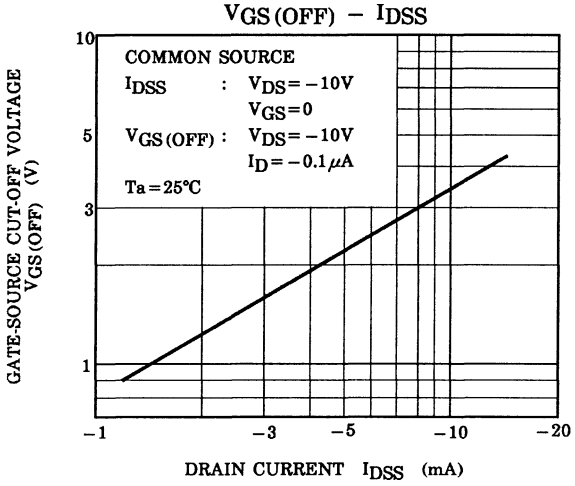
$|Y_{fs}| - I_{DSS}$



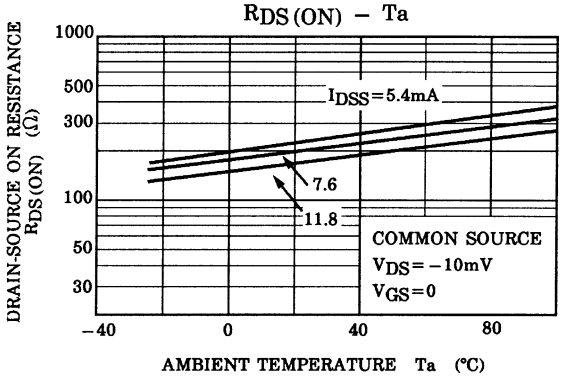
$R_{DS(ON)} - I_{DSS}$



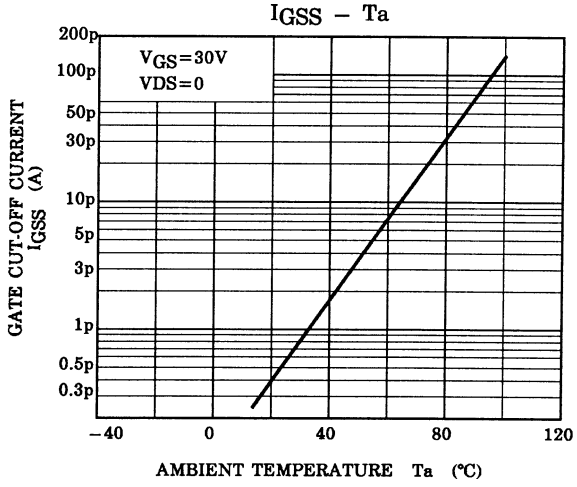
$V_{GS(OFF)} - I_{DSS}$



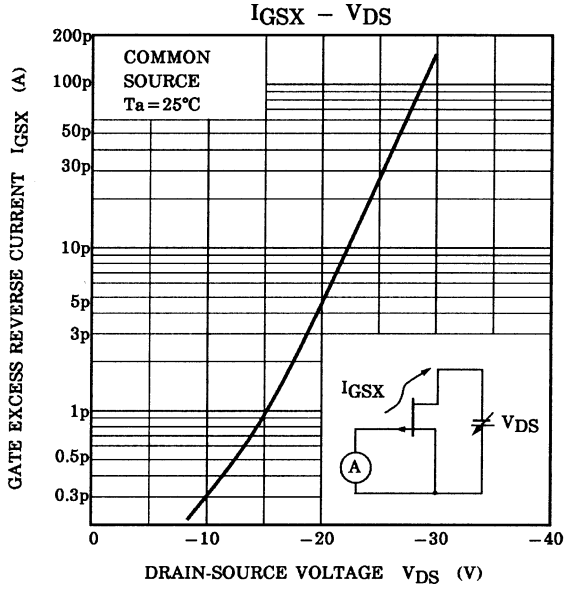
$R_{DS\,(ON)}$ – Ta



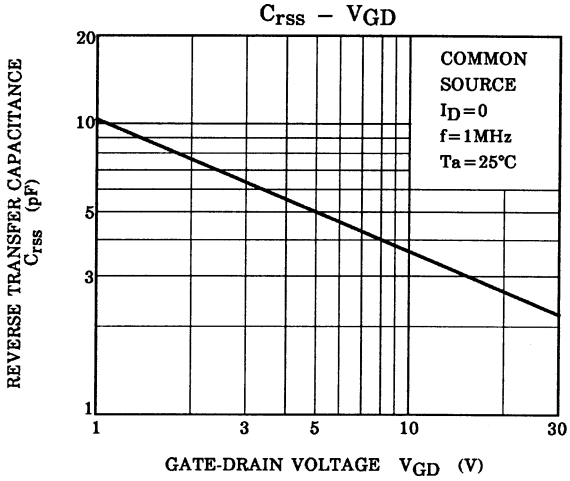
I_{GSS} – Ta



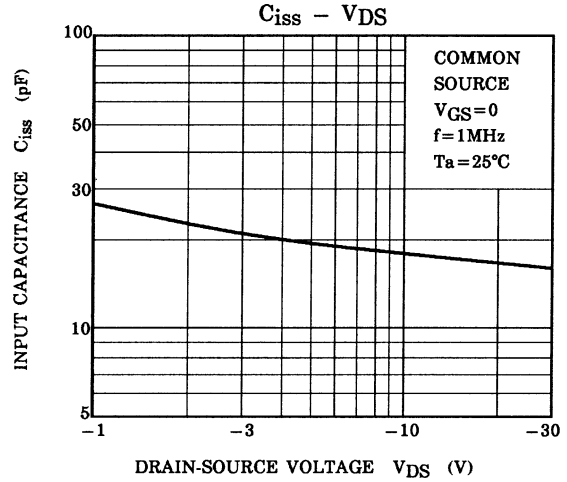
I_{GSX} – V_{DS}



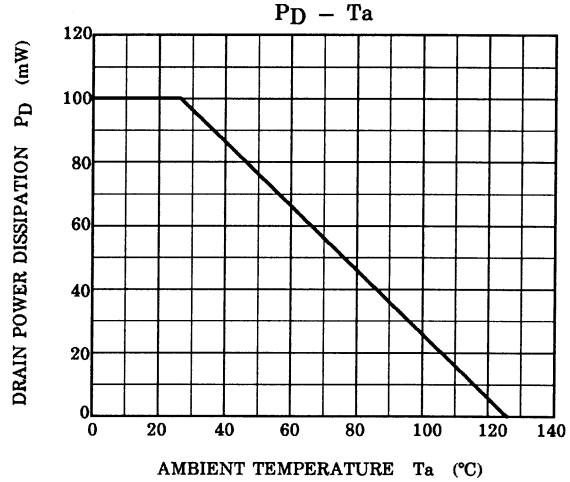
C_{rss} – V_{GD}



C_{iss} – V_{DS}



P_D – Ta



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