

TOSHIBA Field Effect Transistor Silicon N Channel Junction Type

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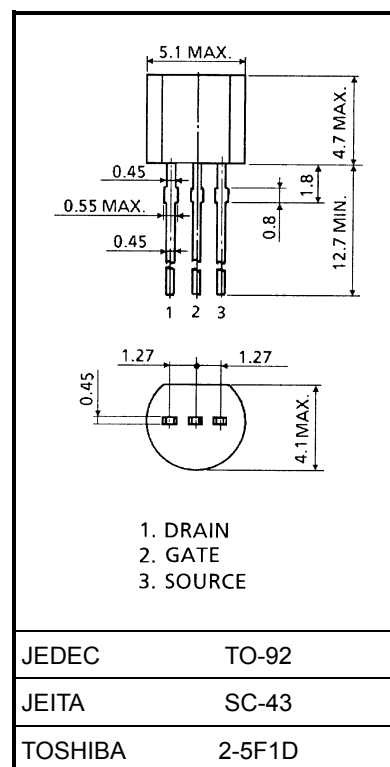
For Audio Amplifier, Analog Switch, Constant Current
and Impedance Converter Applications

Unit: mm

- High breakdown voltage: $V_{GDS} = -40\text{ V}$
- High input impedance: $I_{GSS} = -1.0\text{ nA (max)}$ ($V_{GS} = -30\text{ V}$)
- Low $R_{DS(ON)}$: $R_{DS(ON)} = 20\ \Omega$ (typ.) ($I_{DSS} = 15\text{ mA}$)

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

Characteristics	Symbol	Rating	Unit
Gate-drain voltage	V_{GDS}	-40	V
Gate current	I_G	10	mA
Drain power dissipation	P_D	400	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

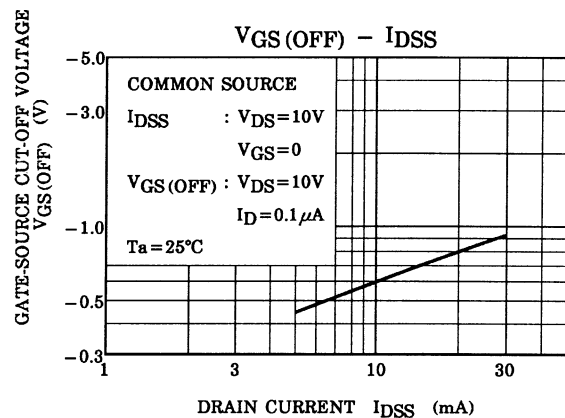
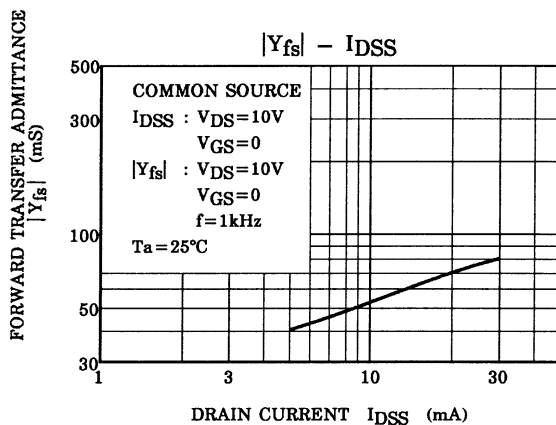
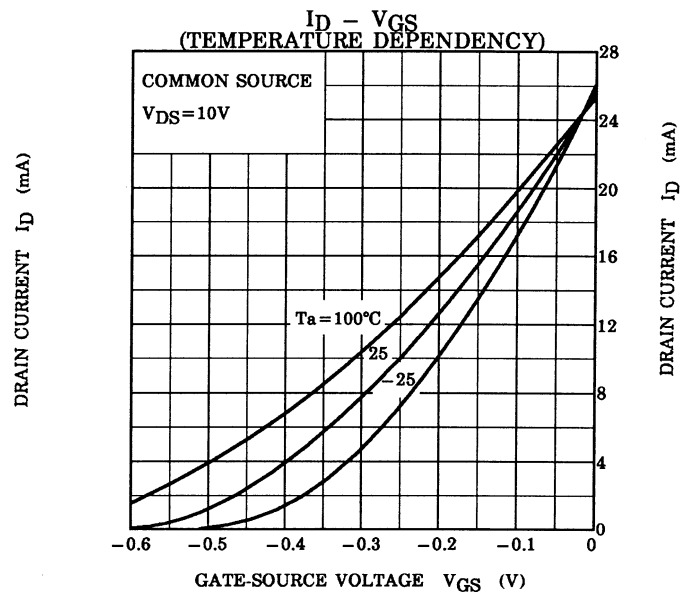
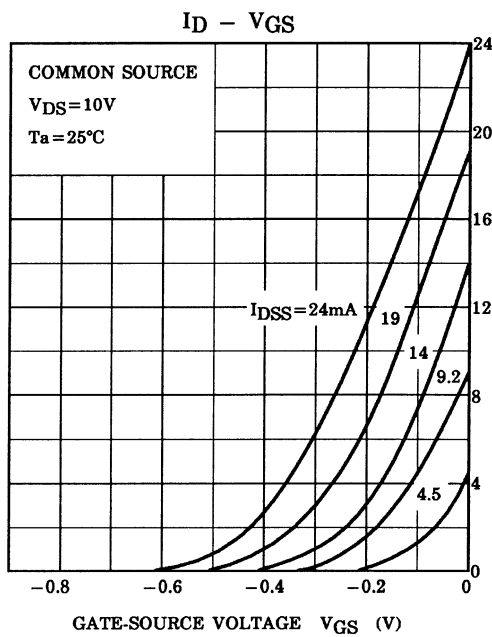
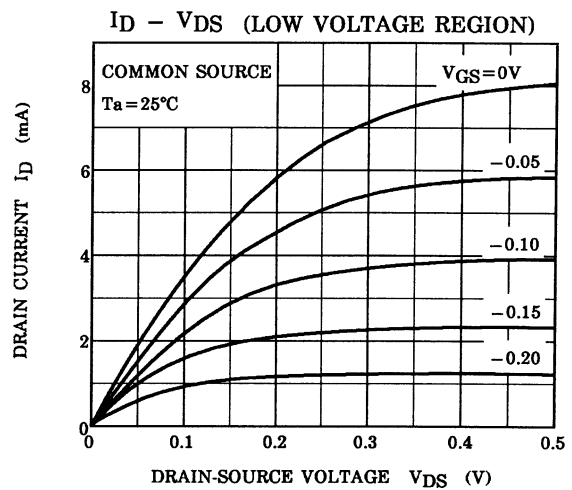
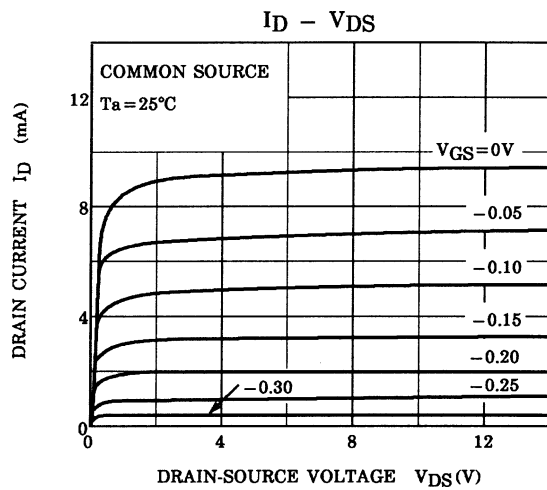


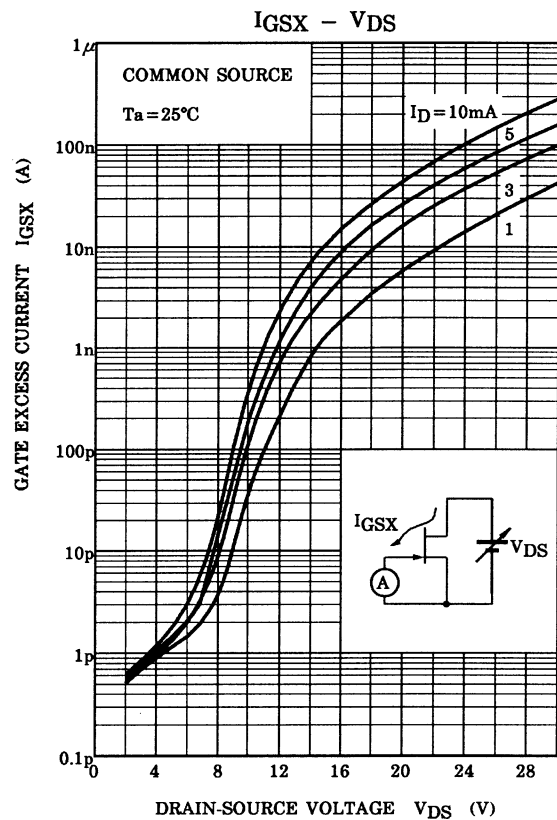
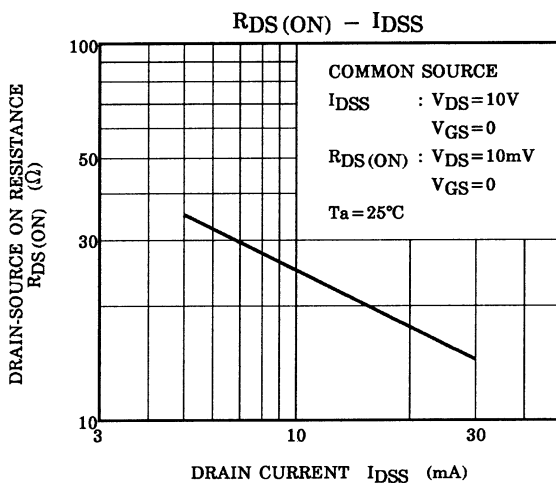
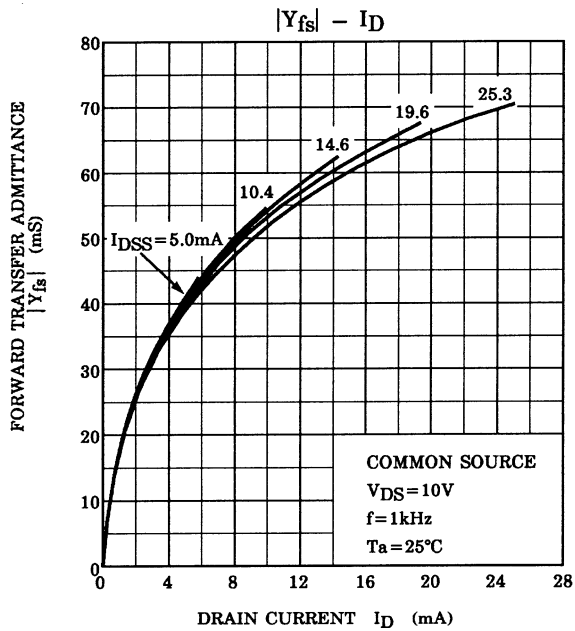
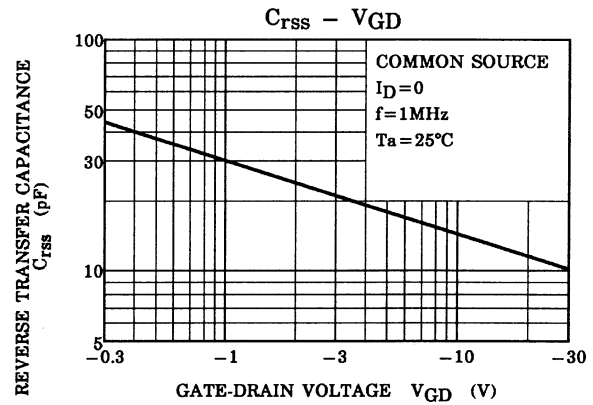
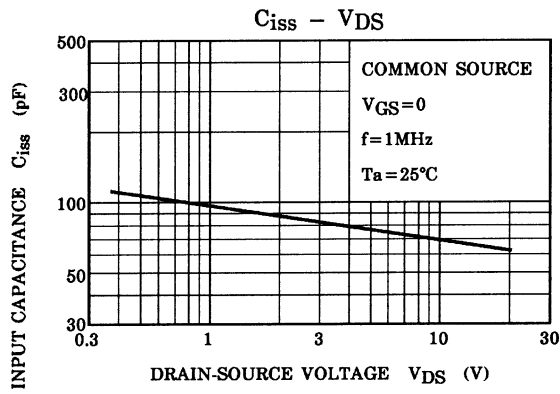
Weight: 0.21 g (typ.)

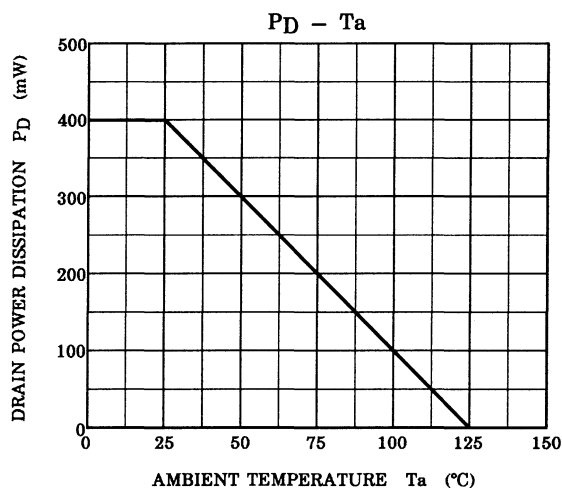
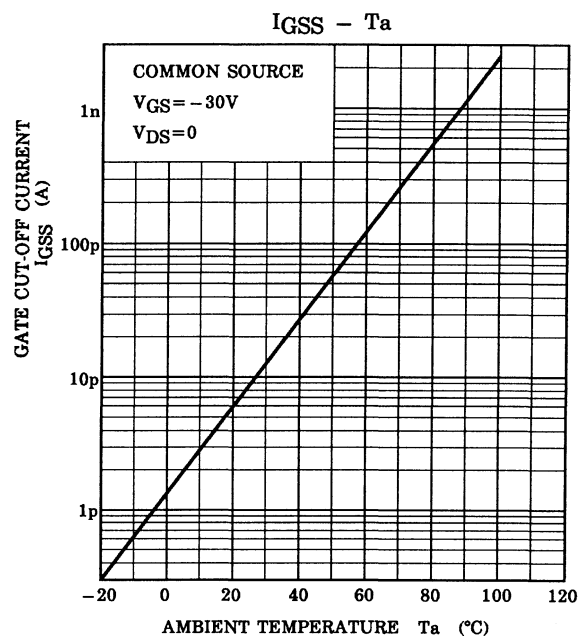
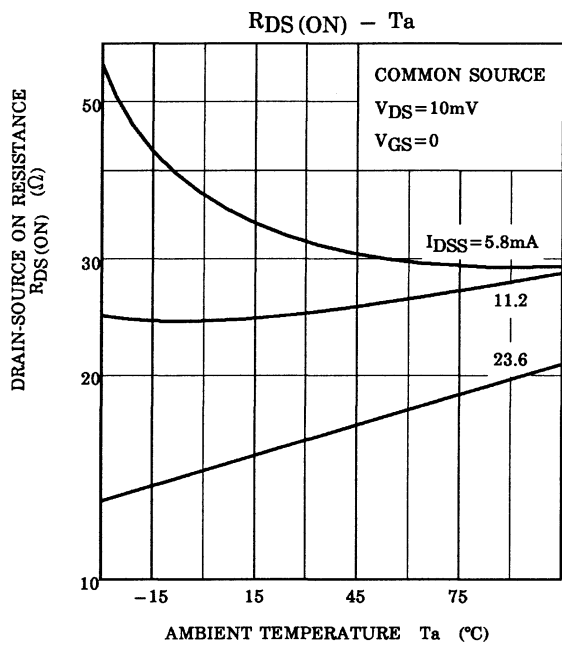
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate cut-off current	I_{GSS}	$V_{GS} = -30\text{ V}, V_{DS} = 0$	—	—	-1.0	nA
Gate-drain breakdown voltage	$V_{(BR)GDS}$	$V_{DS} = 0, I_G = -100\ \mu\text{A}$	-40	—	—	V
Drain current	I_{DSS} (Note 1)	$V_{DS} = 10\text{ V}, V_{GS} = 0$	5.0	—	30	mA
Gate-source cut-off voltage	$V_{GS(OFF)}$	$V_{DS} = 10\text{ V}, I_D = 0.1\ \mu\text{A}$	-0.3	—	-1.2	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ kHz}$ (Note 2)	25	60	—	mS
Input capacitance	C_{iss}	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	75	—	pF
Reverse transfer capacitance	C_{rss}	$V_{GD} = -10\text{ V}, I_D = 0, f = 1\text{ MHz}$	—	15	—	pF
Drain-source ON resistance	$R_{DS(ON)}$	$V_{DS} = 10\text{ mV}, V_{GS} = 0$ (Note 2)	—	20	—	Ω

Note 1: I_{DSS} classification GR: 5.0~10.0 mA, BL: 8.0~16.0 mA, V: 14.0~30.0 mANote 2: Condition of the typical value $I_{DSS} = 15\text{ mA}$







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