

2SJ103

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

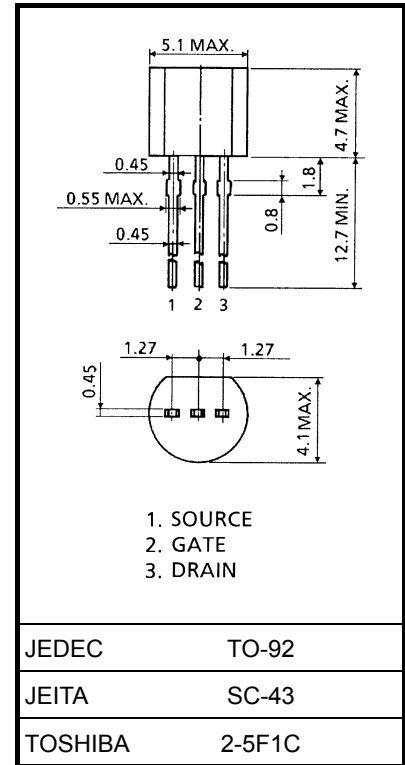
Unit: mm

- High breakdown voltage: $V_{GDS} = 50\text{ V}$
- High input impedance: $I_{GSS} = 1.0\text{ nA (max)}$ ($V_{GS} = 30\text{ V}$)
- Low $R_{DS(ON)}$: $R_{DS(ON)} = 270\ \Omega$ (typ.) ($I_{DSS} = -5\text{ mA}$)
- Complimentary to 2SK246

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

Characteristics	Symbol	Rating	Unit
Gate-drain voltage	V_{GDS}	50	V
Gate current	I_G	-10	mA
Drain power dissipation	P_D	300	mW
Junction temperature	T_j	125	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~125	$^\circ\text{C}$

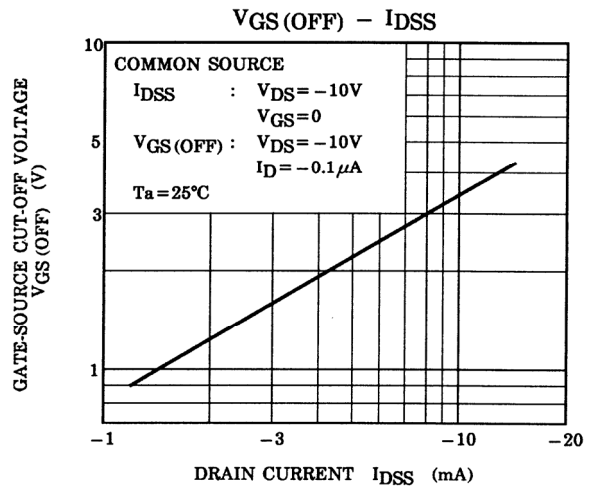
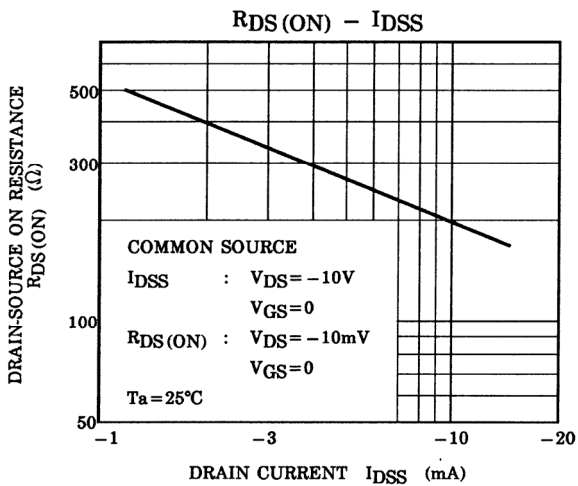
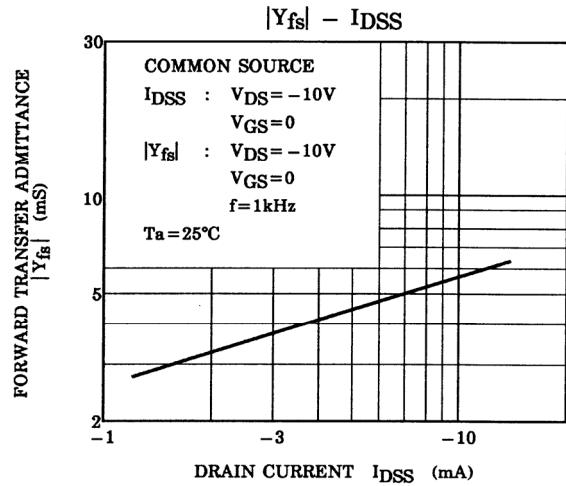
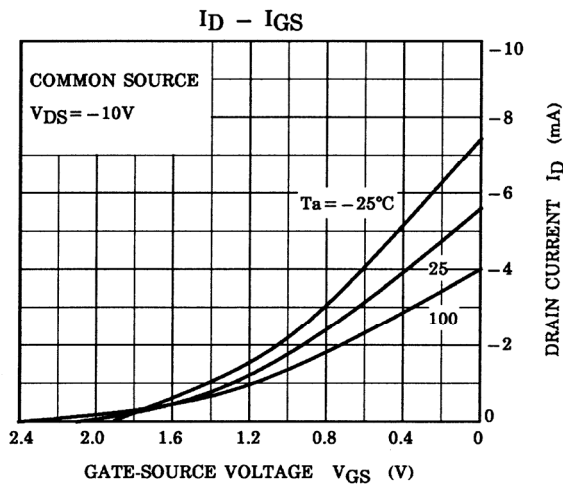
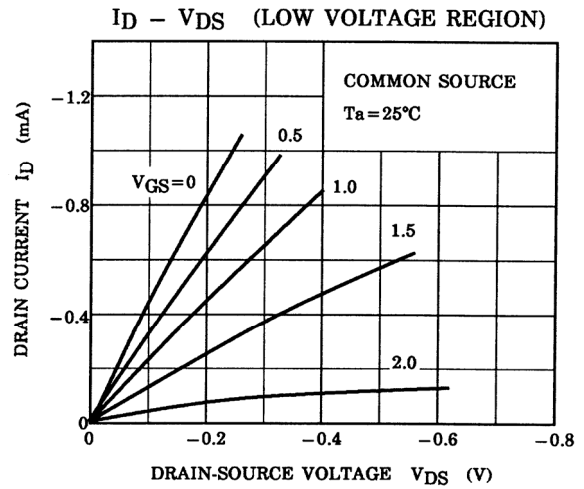
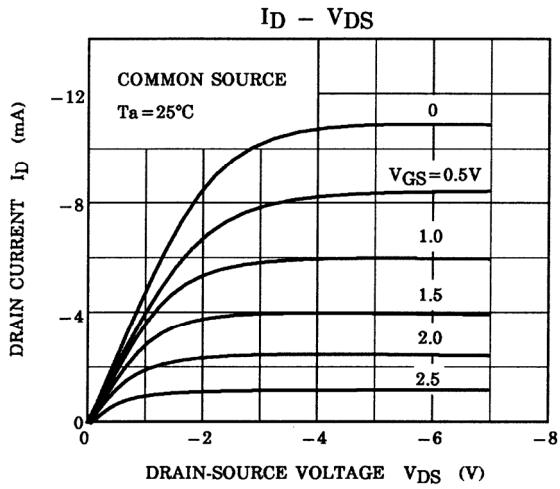
Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

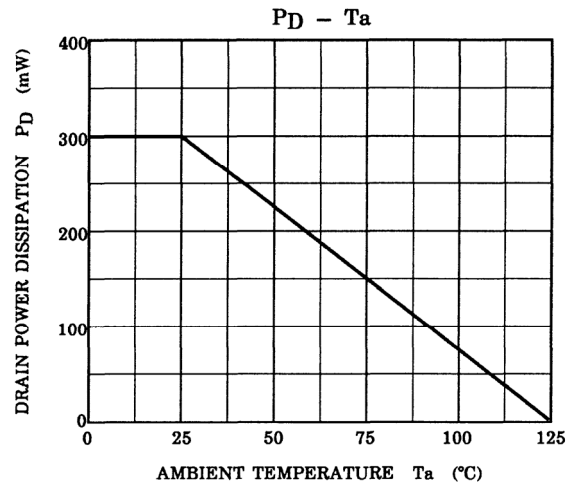
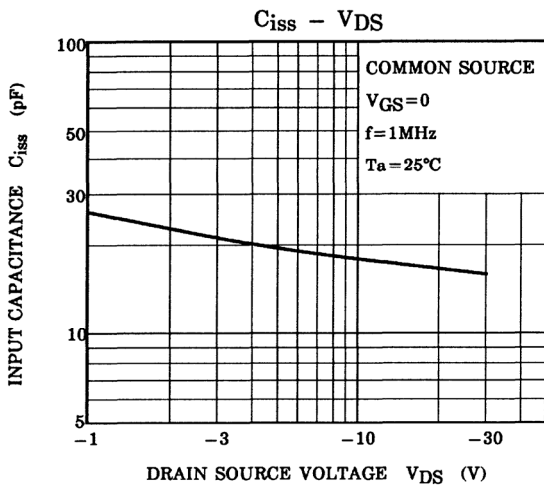
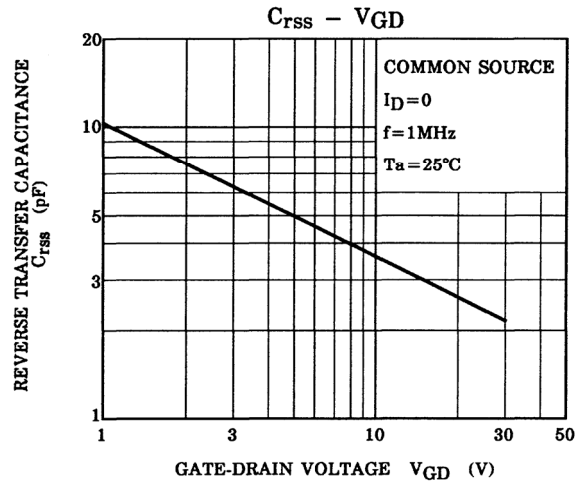
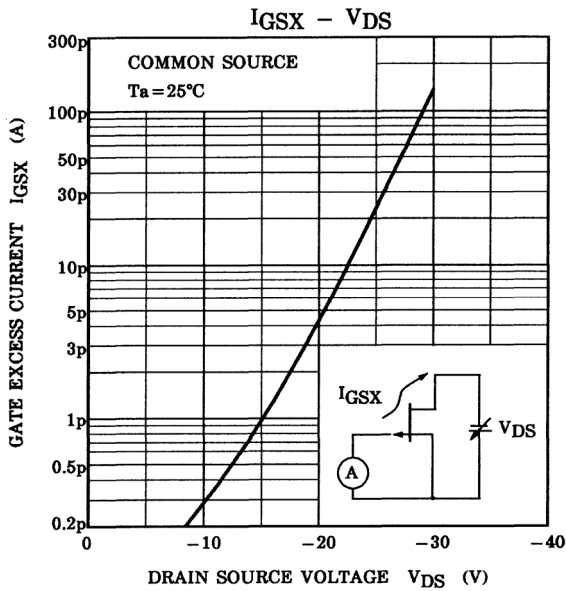
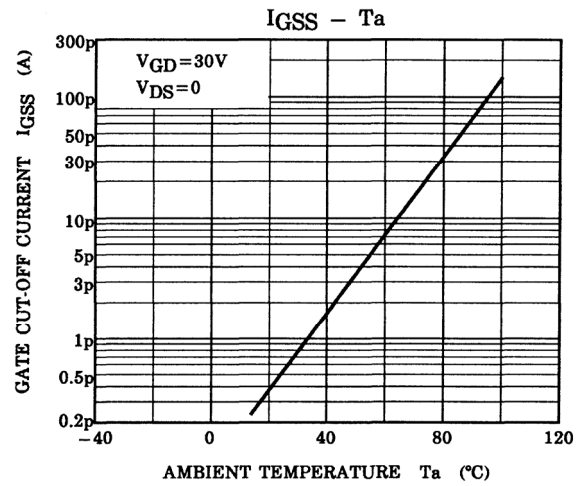
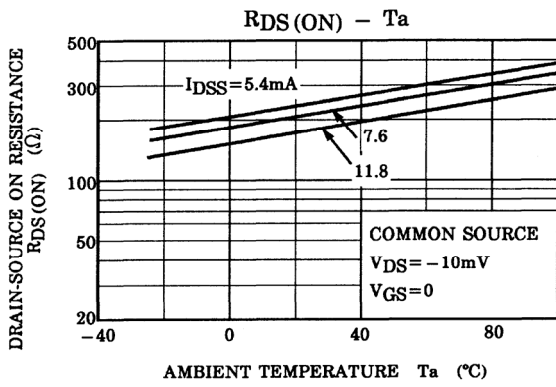


Electrical Characteristics ($T_a = 25^\circ\text{C}$)

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	$V_{(BR)GDS}$	$V_{DS} = 0, I_G = 100\ \mu\text{A}$	50	—	—	V
Drain current	I_{DSS} (Note)	$V_{DS} = -10\text{ V}, V_{GS} = 0$	-1.2	—	-14	mA
Gate-source cut-off voltage	$V_{GS(OFF)}$	$V_{DS} = -10\text{ V}, I_D = -0.1\ \mu\text{A}$	0.3	—	6.0	V
Forward transfer admittance	$ Y_{fs} $	$V_{DS} = -10\text{ V}, V_{GS} = 0, f = 1\text{ kHz}$	1.0	4.0	—	mS
Drain-source ON resistance	$R_{DS(ON)}$	$V_{DS} = -10\text{ mV}, V_{GS} = 0, I_{DSS} = -5\text{ mA}$	—	270	—	Ω
Input capacitance	C_{iss}	$V_{DS} = -10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	18	—	pF
Reverse transfer capacitance	C_{rss}	$V_{DG} = -10\text{ V}, I_D = 0, f = 1\text{ MHz}$	—	3.6	—	pF

Note: I_{DSS} classification Y: -1.2~-3.0 mA, GR: -2.6~-6.5 mA, BL: -6~-14 mA





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20070701-EN GENERAL

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