



QNHCHIP

2SJ103

Product Specification

2SJ103

Silicon P Channel Junction Type



Description

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

- 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

($T_A = 25^\circ\text{C}$)

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

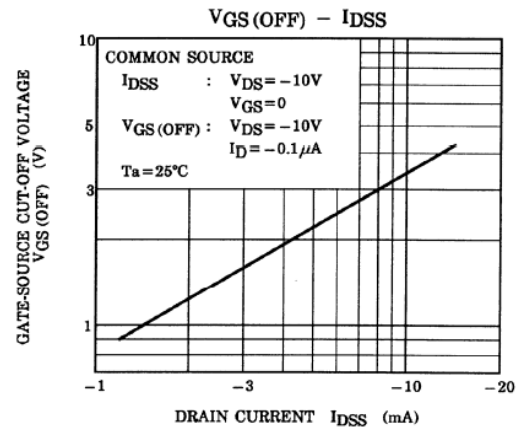
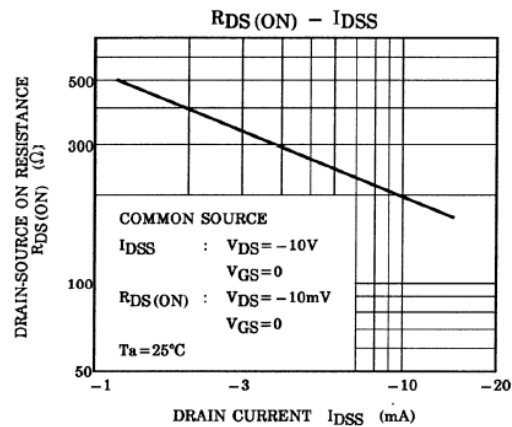
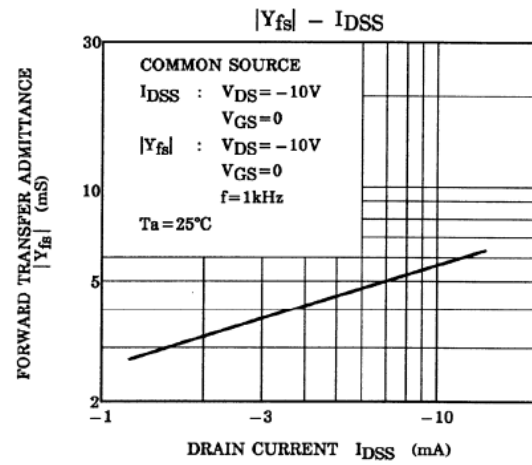
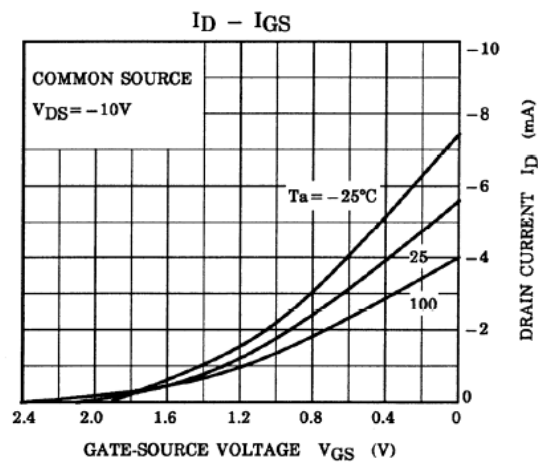
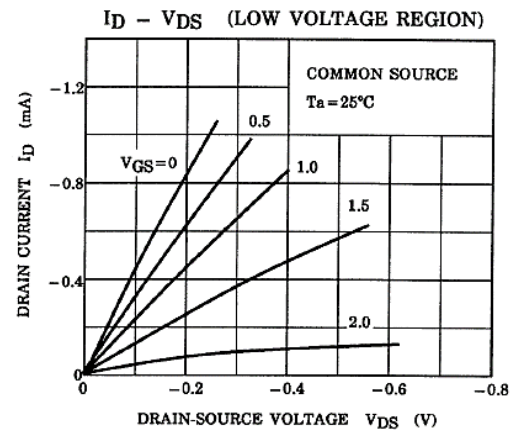
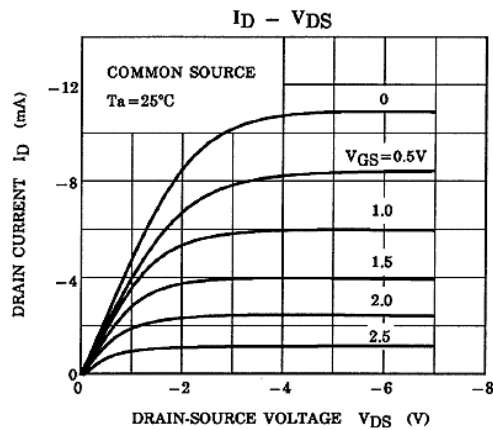
(T_A = 25°C)

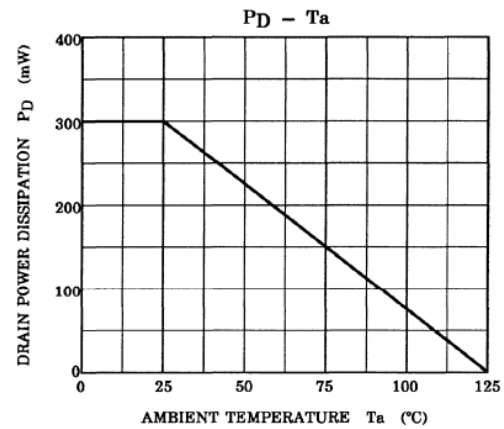
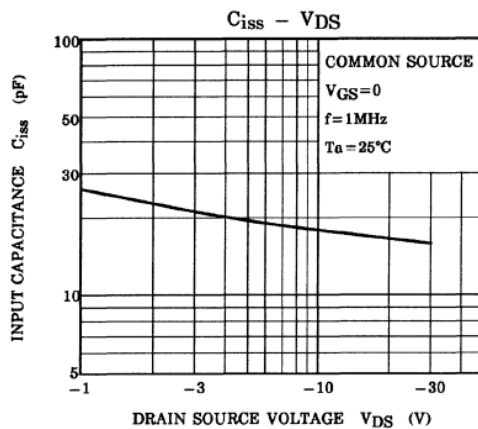
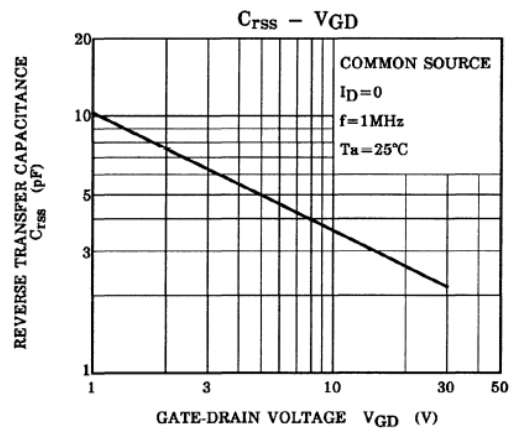
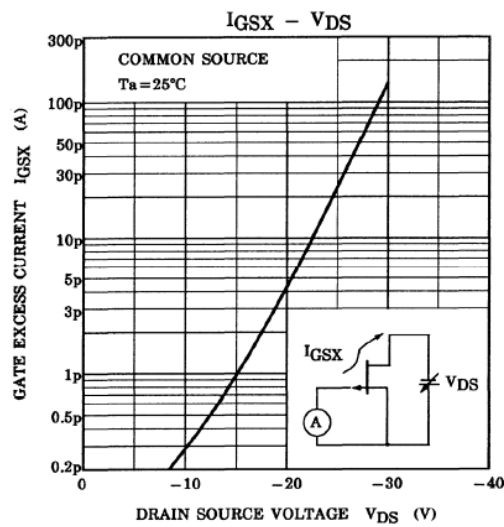
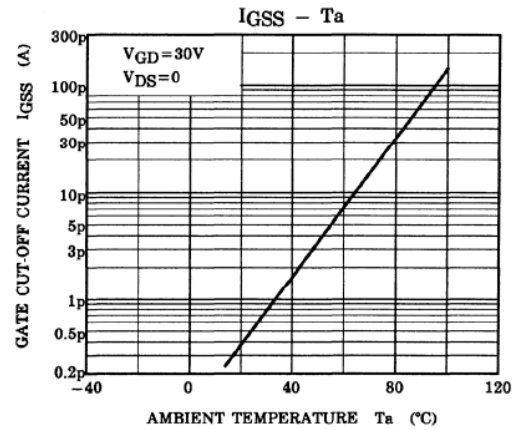
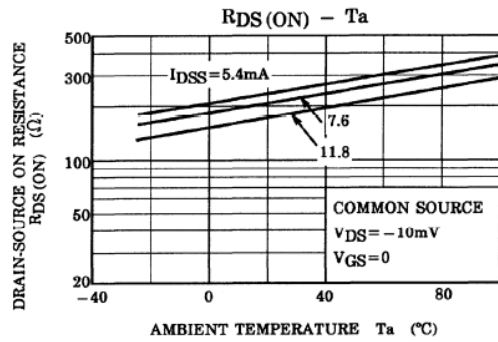
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Gate cut-off current	I _{GSS}	V _{GS} =30 V, V _{DS} =0			1.0	nA
Gate-drain breakdown voltage	V _{(BR) GDS}	V _{DS} =0, I _G =100uA	50			V
Drain current	I _{DSS} (Note)	V _{DS} =-10 V, V _{GS} =0	-1.2		-14	mA
Gate-source cut-off voltage	V _{GS} (OFF)	V _{DS} =-10 V, I _D =-0.1uA	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=1MHz		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: -2.6~-6.5 mA, BL: -6~-14 mA



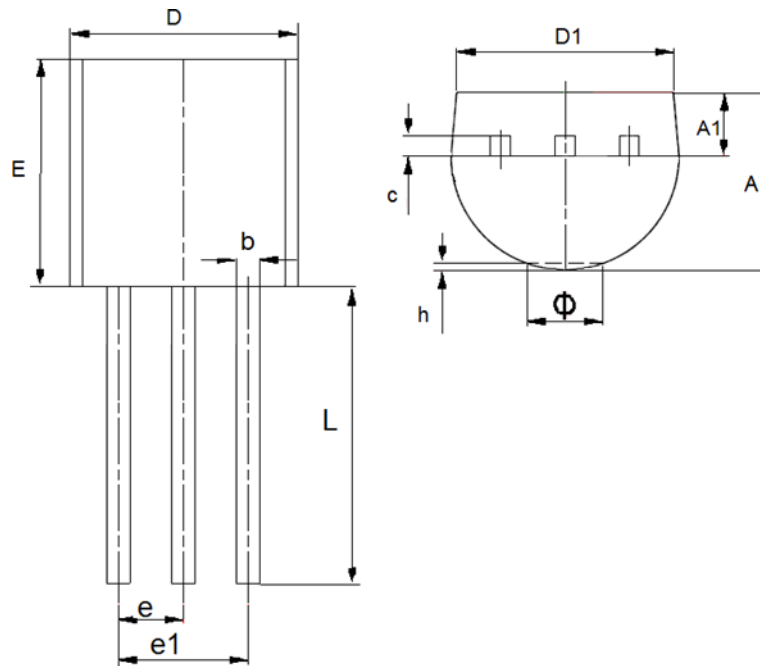
Typical Application Circuit







Packaging Information



参数	尺寸 (mm)		尺寸 (Inch)	
	最小值	最大值	最小值	最大值
A	3.3	3.7	0.1299	0.1457
A1	1.1	1.4	0.0433	0.0551
b	0.38	0.55	0.015	0.0217
c	0.36	0.51	0.0142	0.0201
D	4.3	4.7	0.1693	0.185
D1	3.43	—	0.135	—
E	4.3	4.7	0.1693	0.185
e	1.27		0.05	
e1	2.44	2.64	0.0961	0.1039
L	14.1	14.5	0.5551	0.5709
h	0	0.38	0	0.015
Φ	—	1.6	—	0.063

Ordering information

Order Code	I _{DSS} (mA)	Package Type	Minimum Packing QTY	Belivery Mode
2SJ103-Y	-1.2~-3.0	TO-92	3000	Tape & Reel
2SJ103-GR	-2.6~-6.5	TO-92	3000	Tape & Reel
2SJ103-BL	-6~-14	TO-92	3000	Tape & Reel