

2SJ305

High Speed Switching Applications
Analog Applications

- High input impedance
- Low gate threshold voltage: $V_{th} = -0.5$ to -1.5 V
- Excellent switching times: $t_{on} = 0.06 \mu s$ (typ.)
 $t_{off} = 0.15 \mu s$ (typ.)
- Low drain-source ON resistance: $R_{DS(ON)} = 2.4 \Omega$ (typ.)
- Small package.
- Complementary to 2SK2009

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

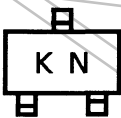
Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DS}	-30	V
Gate-source voltage	V_{GSS}	± 20	V
DC drain current	I_D	-200	mA
Drain power dissipation	P_D	200	mW
Channel temperature	T_{ch}	150	$^{\circ}C$
Storage temperature range	T_{stg}	-55 to 150	$^{\circ}C$

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.

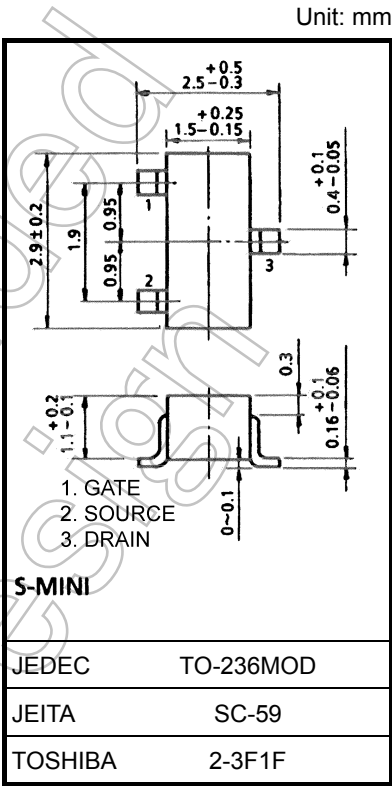
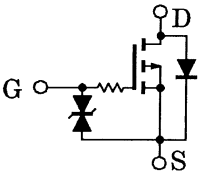
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note: This transistor is electrostatic sensitive device.
Please handle with caution.

Marking



Equivalent Circuit



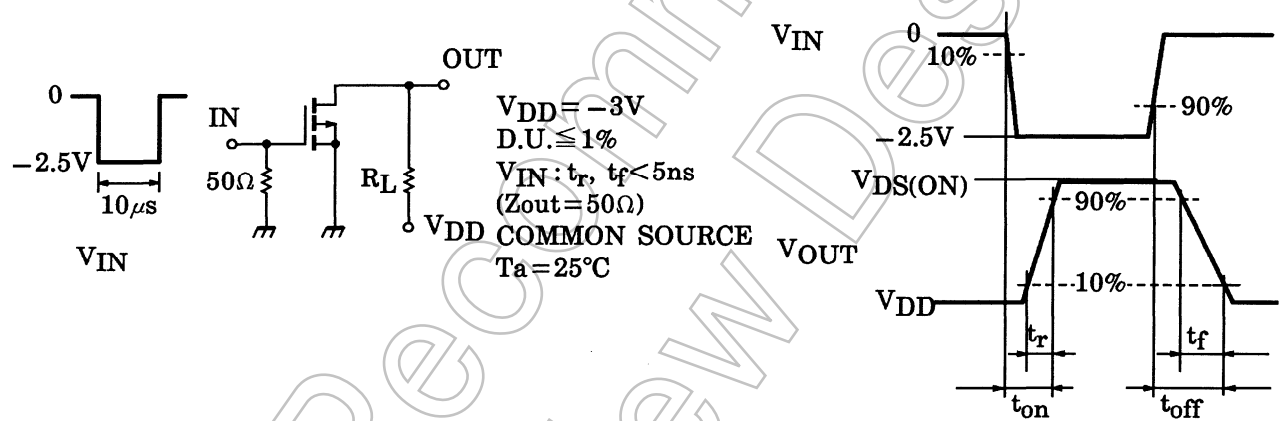
Weight: 0.012 g (typ.)

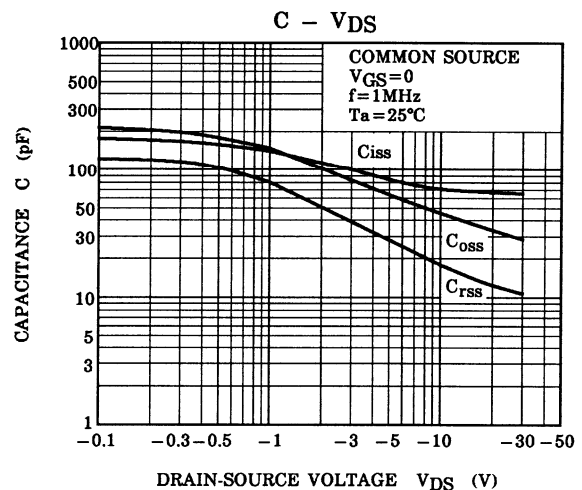
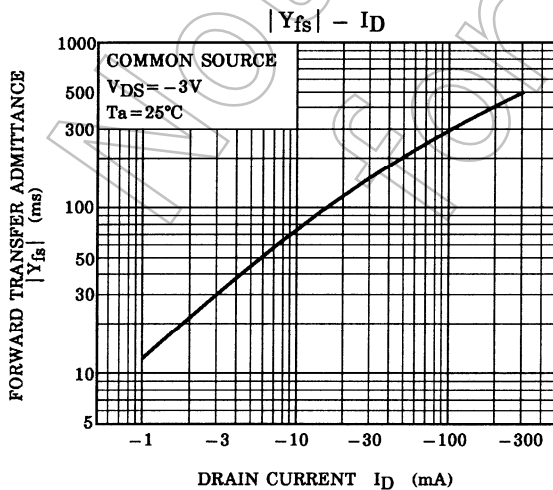
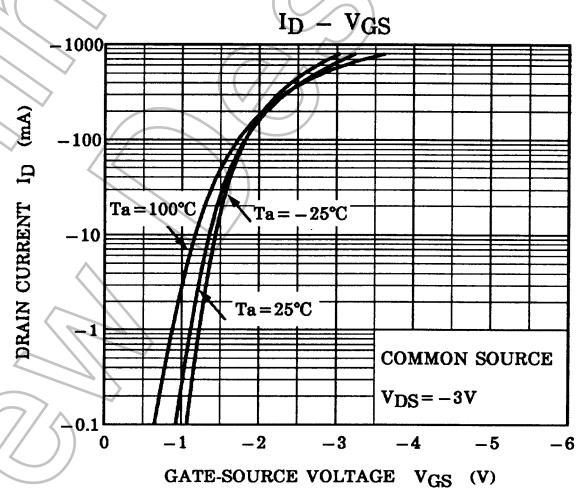
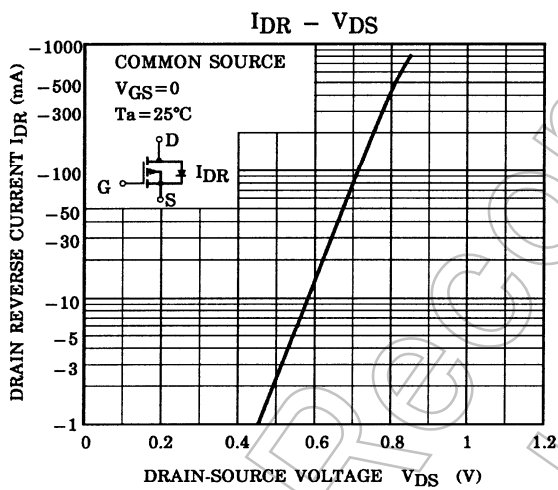
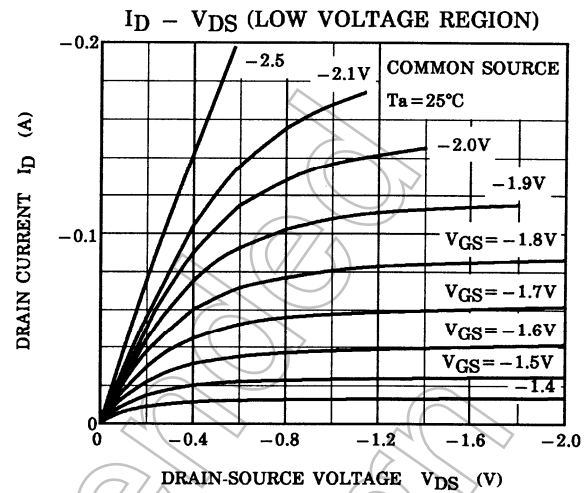
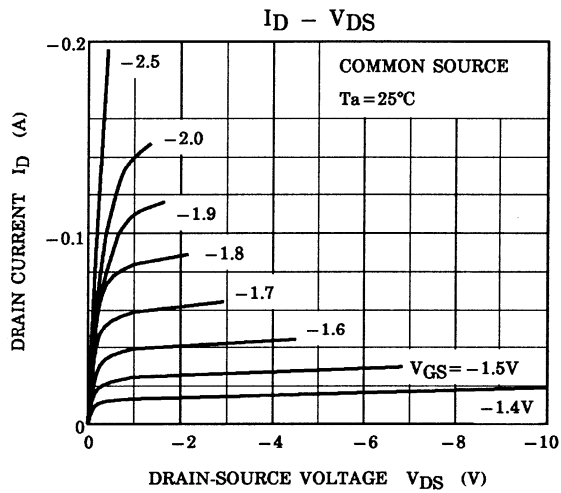
Start of commercial production
1992-04

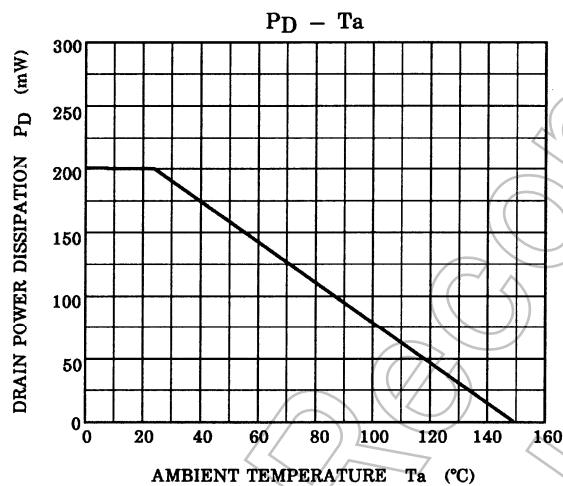
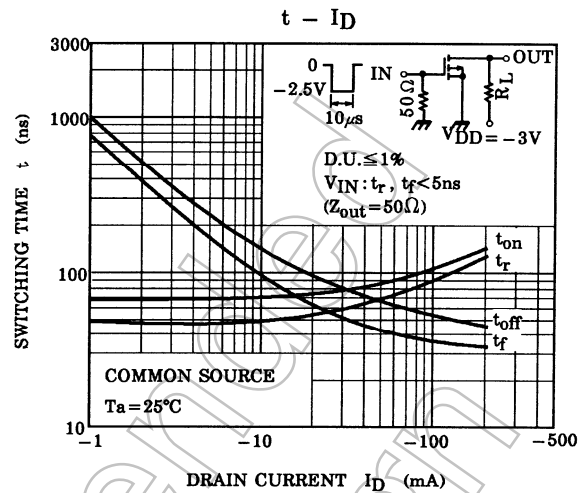
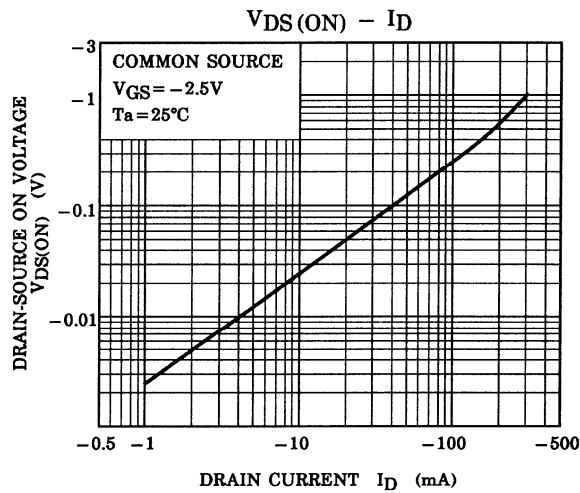
Electrical Characteristics (Ta = 25°C)

Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		IGSS	VGS = ±10 V, VDS = 0	—	—	±0.1	μA
Drain-source breakdown voltage		V (BR) DSS	ID = -1 mA, VGS = 0	-30	—	—	V
Drain cut-off current		IDSS	VDS = -30 V, VGS = 0	—	—	-10	μA
Gate threshold voltage		Vth	VDS = -3 V, ID = -0.1 mA	-0.5	—	-1.5	V
Forward transfer admittance		Yfs	VDS = -3 V, ID = -50 mA	100	—	—	mS
Drain-source ON resistance		RDS (ON)	ID = -50 mA, VGS = -2.5 V	—	2.4	4	Ω
Input capacitance		Ciss	VDS = -3 V, VGS = 0, f = 1 MHz	—	92	—	pF
Reverse transfer capacitance		Crss	VDS = -3 V, VGS = 0, f = 1 MHz	—	36	—	pF
Output capacitance		Coss	VDS = -3 V, VGS = 0, f = 1 MHz	—	80	—	pF
Switching time	Turn-on time	ton	VDD = -3 V, ID = -10 mA VGS = 0 to -2.5 V	—	0.06	—	μs
	Turn-off time	toff	VDD = -3 V, ID = -10 mA VGS = 0 to -2.5 V	—	0.15	—	

Switching Time Test Circuit







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