Unit: mm

TOSHIBA Field Effect Transistor Silicon P Channel MOS Type

2SJ305

High Speed Switching Applications Analog Applications

• High input impedance

• Low gate threshold voltage.: $V_{th} = -0.5 \sim -1.5 \text{ V}$

• Excellent switching times.: $t_{on} = 0.06 \mu s$ (typ.)

 $t_{off} = 0.15 \mu s \text{ (typ.)}$

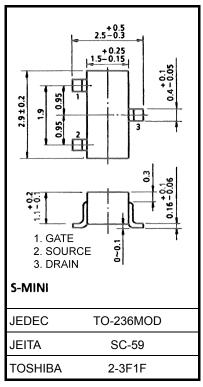
• Low drain-source ON resistance: RDS (ON) = 2.4Ω (typ.)

• Small package.

• Complementary to 2SK2009

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Drain-source voltage	V_{DS}	-30	٧
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	°C
Storage temperature range	T _{stg}	-55~150	°C



Weight: 0.012 g (typ.)

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).

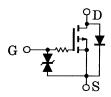
Note: This transistor is electrostatic sensitive device.

Please handle with caution.

Marking



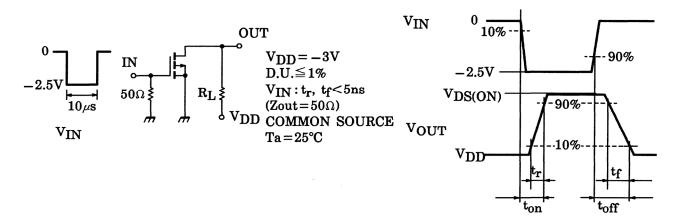
Equivalent Circuit

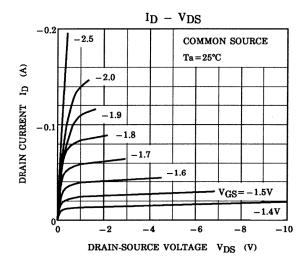


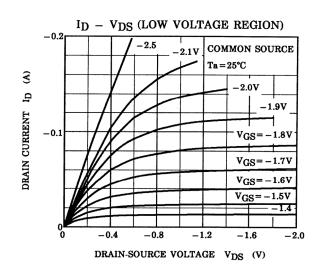
Electrical Characteristics (Ta = 25°C)

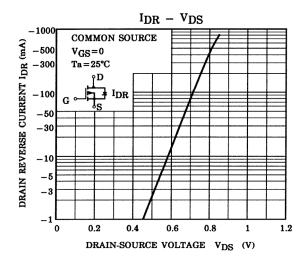
Characteristics		Symbol	Test Condition	Min	Тур.	Max	Unit
Gate leakage curre	ent	I _{GSS}	$V_{GS} = \pm 10 \text{ V}, V_{DS} = 0$	_	_	±0.1	μА
Drain-source breal	kdown voltage	V (BR) DSS	$I_D = -1$ mA, $V_{GS} = 0$	-30	_	_	V
Drain cut-off currer	nt	I _{DSS}	$V_{DS} = -30 \text{ V}, V_{GS} = 0$	_	_	-10	μА
Gate threshould vo	oltage	V_{th}	$V_{DS} = -3 \text{ V}, I_D = -0.1 \text{ mA}$	-0.5	_	-1.5	V
Forward transfer a	dmittance	Y _{fs}	$V_{DS} = -3 \text{ V}, I_D = -50 \text{ mA}$	100	_	_	mS
Drain-source ON r	esistance	R _{DS} (ON)	$I_D = -50 \text{ mA}, V_{GS} = -2.5 \text{ V}$	_	2.4	4	Ω
Input capacitance		C _{iss}	$V_{DS} = -3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	_	92	_	pF
Reverse transfer capacitance		C _{rss}	$V_{DS} = -3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	_	36	_	pF
Output capacitance		Coss	$V_{DS} = -3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	_	80	_	pF
Switching time	Turn-on time	t _{on}	$V_{DD} = -3 \text{ V}, I_D = -10 \text{ mA}$ $V_{GS} = 0 \sim -2.5 \text{ V}$	_	0.06	_	6
	Turn-off time	t _{off}	$V_{DD} = -3 \text{ V}, I_D = -10 \text{ mA}$ $V_{GS} = 0 \sim -2.5 \text{ V}$	_	0.15	_	μS

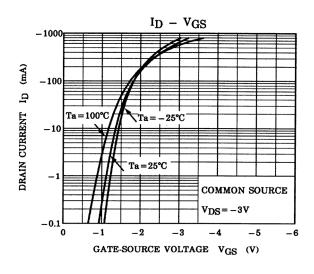
Switching Time Test Circuit

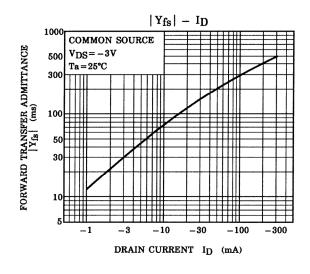


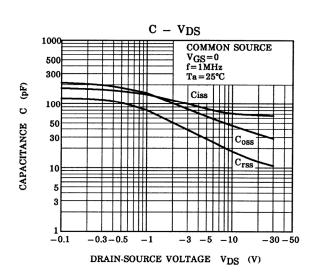




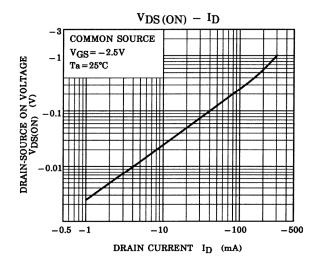


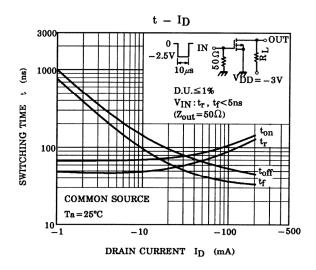


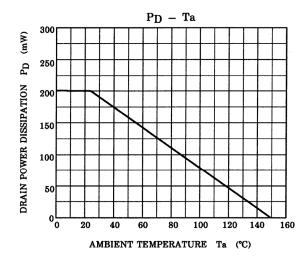




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20070701-EN GENERAL

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