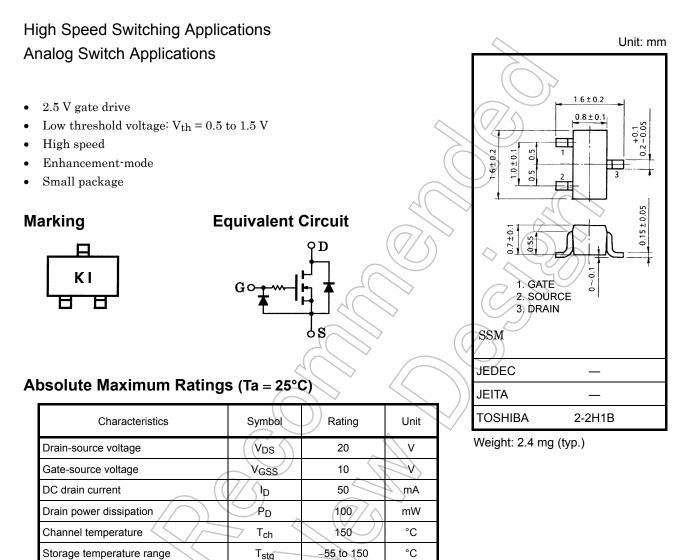
TOSHIBA Field Effect Transistor Silicon N Channel MOS Type

2SK1830



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.

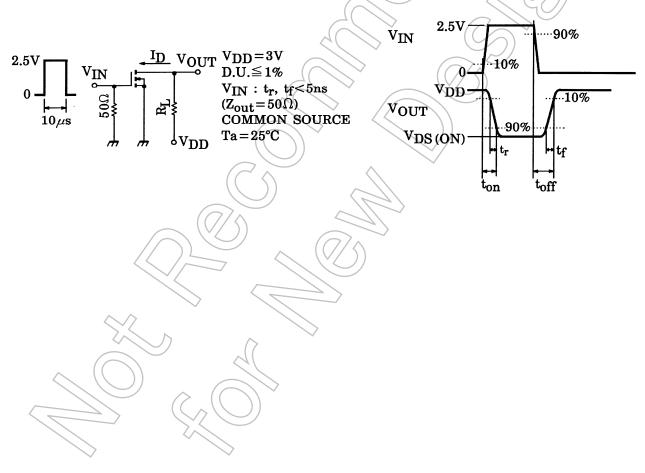
Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

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

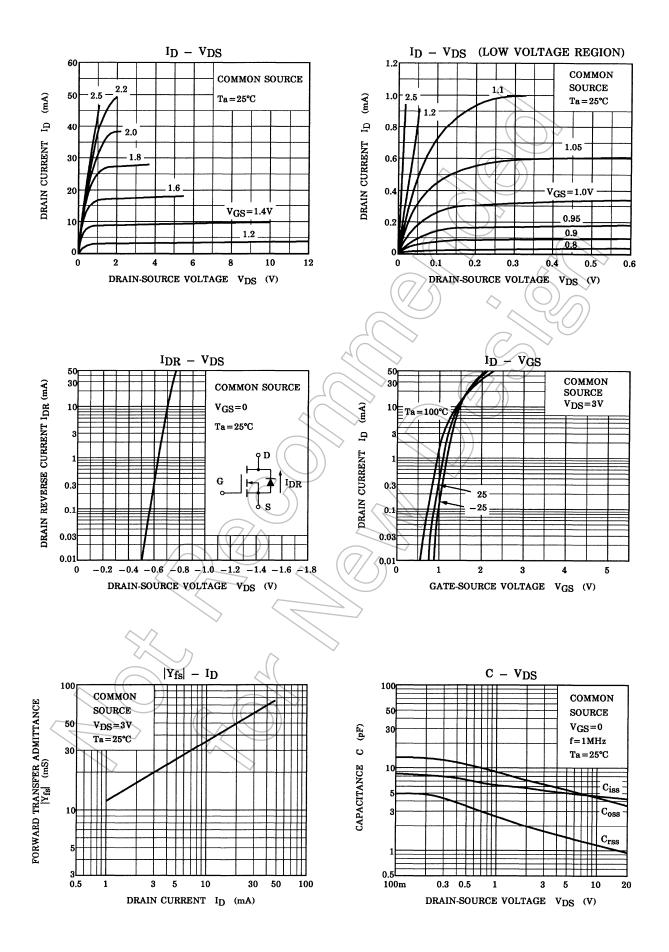
Electrical Characteristics (Ta = 25°C)

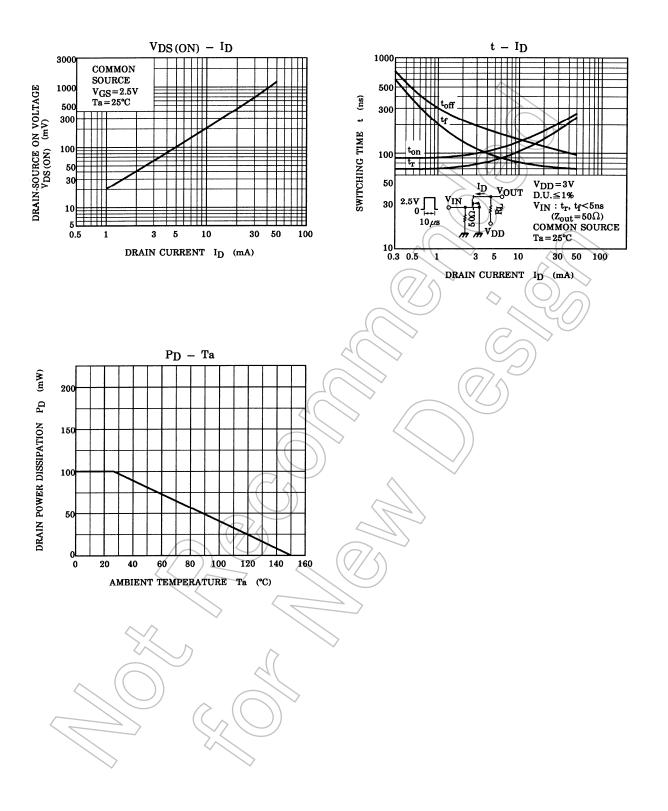
Characteristics		Symbol	Test Condition	Min	Тур.	Max	Unit
Gate leakage current		I _{GSS}	$V_{GS} = 10 \text{ V}, V_{DS} = 0$			1	μA
Drain-source breakdown voltage		V (BR) DSS	$I_D = 100 \ \mu A, \ V_{GS} = 0$	20	_	_	V
Drain cut-off current		I _{DSS}	$V_{DS} = 20 V, V_{GS} = 0$	X	_	1	μA
Gate threshold voltage		V _{th}	$V_{DS} = 3 \text{ V}, \text{ I}_{D} = 0.1 \text{ mA}$	0.5	-	1.5	V
Forward transfer admittance		Y _{fs}	$V_{DS} = 3 \text{ V}, \text{ I}_{D} = 10 \text{ mA}$	20)/	_	mS
Drain-source ON resistance		R _{DS (ON)}	$I_D = 10 \text{ mA}, V_{GS} = 2.5 \text{ V}$	77	20	40	Ω
Input capacitance		C _{iss}	$V_{DS} = 3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	\mathcal{A}	5.5	_	pF
Reverse transfer capacitance		C _{rss}	$V_{DS} = 3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$		1.6	_	pF
Output capacitance		C _{oss}	$V_{DS} = 3 \text{ V}, V_{GS} = 0, f = 1 \text{ MHz}$	_	6.5	_	pF
Switching time	Turn-on time	t _{on}	V_{DD} = 3 V, I _D = 10 mA, V_{GS} = 0 to 2.5 V		0.14	_	μS
	Turn-off time	t _{off}	V_{DD} = 3 V, I_{D} = 10 mA, V_{GS} = 0 to 2.5 V	_	0.14	\searrow	

Switching Time Test Circuit



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