查询2SK2033供应商 捷多邦，专业PCB打样工厂，24小时加急出货

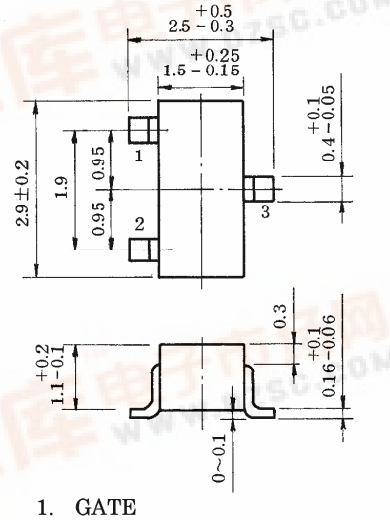
TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL MOS TYPE

2SK2033

HIGH SPEED SWITCHING APPLICATIONS.
ANALOG SWITCH APPLICATIONS.

- High Input Impedance.
- Low Gate Threshold Voltage : V_{th} = 0.5~1.5V
- Excellent Switching Times : t_{on} = 0.16μs (typ.)
  t_{off} = 0.15μs (typ.)
- Small Package.
- Enhancement-Mode

Unit in mm



1. GATE
2. SOURCE
3. DRAIN

JEDEC	TO-236MOD
EIAJ	SC-59
TOSHIBA	2-3F1F

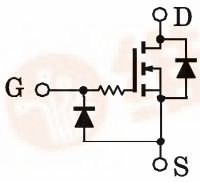
Weight : 0.012g

MAXIMUM RATINGS (Ta = 25°C)

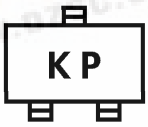
CHARACTERISTIC	SYMBOL	RATING	UNIT
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GSS}	10	V
DC Drain Current	I_D	100	mA
Drain Power Dissipation	P_D	200	mW
Channel Temperature	T_{ch}	150	°C
Storage Temperature Range	T_{stg}	−55~150	°C

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GSS}	V_{GS}=10V, V_{DS}=0	—	—	1	μA
Drain-Source Breakdown Voltage		$V_{(BR)DSS}$	I_D=100μA, V_{GS}=0	20	—	—	V
Drain Cut-off Current		I_{DSS}	V_{DS}=20V, V_{GS}=0	—	—	1	μA
Gate Threshold Voltage		V_{th}	V_{DS}=3V, I_D=0.1mA	0.5	—	1.5	V
Forward Transfer Admittance		$\|Y_{fs}\|$	V_{DS}=3V, I_D=10mA	25	50	—	mS
Drain-Source ON Resistance		$R_{DS(ON)}$	I_D=10mA, V_{GS}=2.5V	—	8	12	Ω
Input Capacitance		C_{iss}	V_{DS}=3V, V_{GS}=0, f=1MHz	—	8.5	—	pF
Reverse Transfer Capacitance		C_{rss}	V_{DS}=3V, V_{GS}=0, f=1MHz	—	3.3	—	pF
Output Capacitance		C_{oss}	V_{DS}=3V, V_{GS}=0, f=1MHz	—	9.3	—	pF
Switching Time	Turn-on Time	t_{on}	V_{DD}=3V, I_D=10mA V_{GS}=0~2.5V	—	0.16	—	μs
	Turn-off Time	t_{off}	V_{DD}=3V, I_D=10mA VGS=0~2.5V	—	0.15	—	μs



MARKING



THIS TRANSISTOR ELECTROSTATIC SENSITIVE DEVICE. PLEASE HANDLE WITH CAUSHON.

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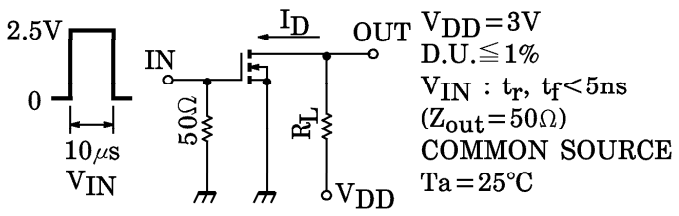
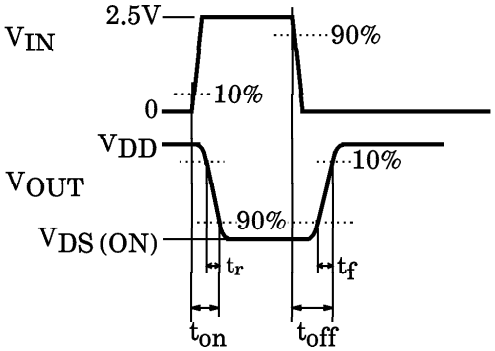
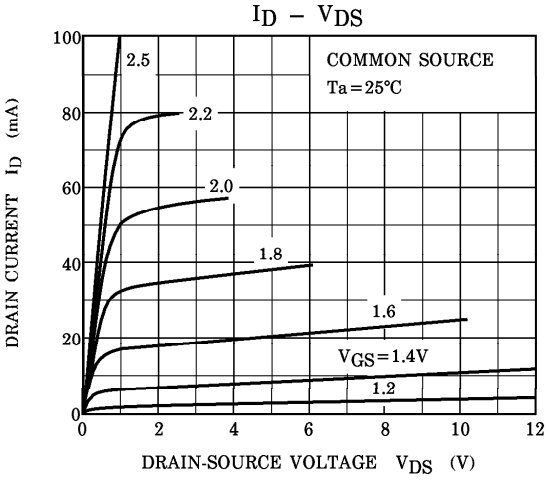
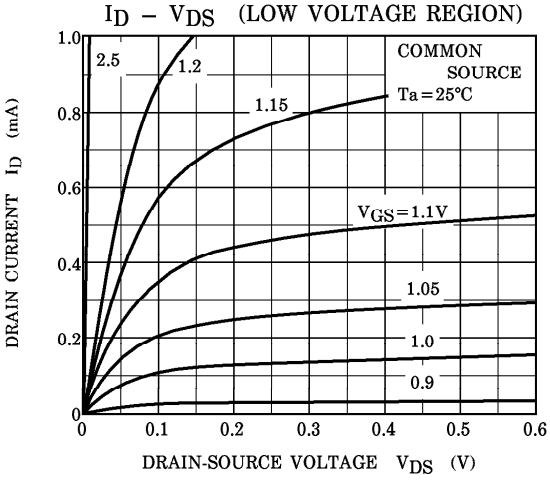
● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

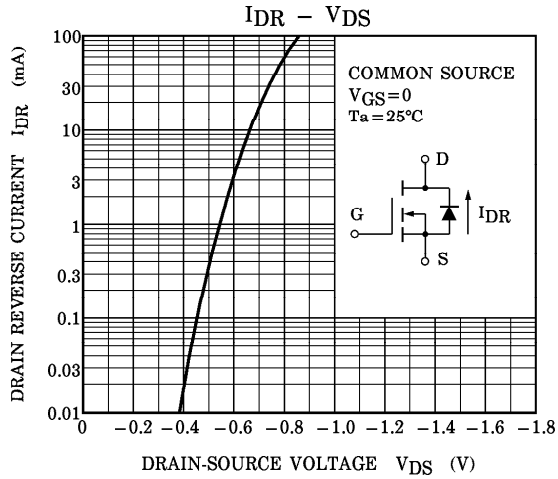
SWITCHING TIME TEST CIRCUIT

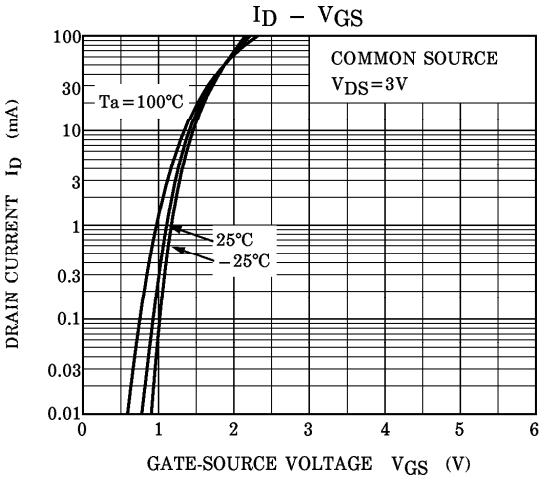












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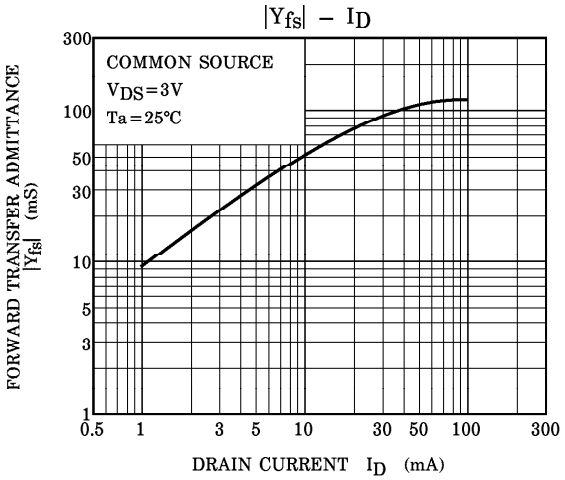
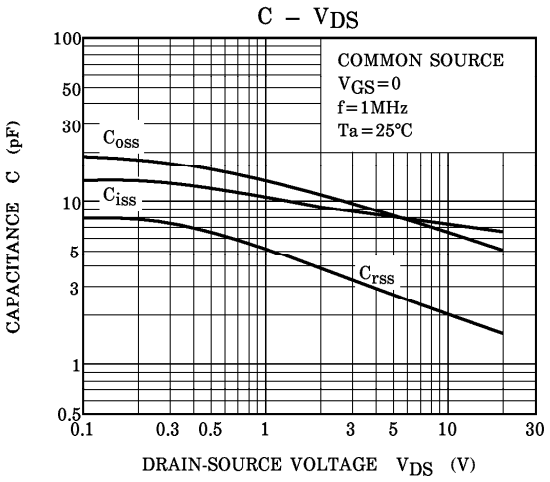
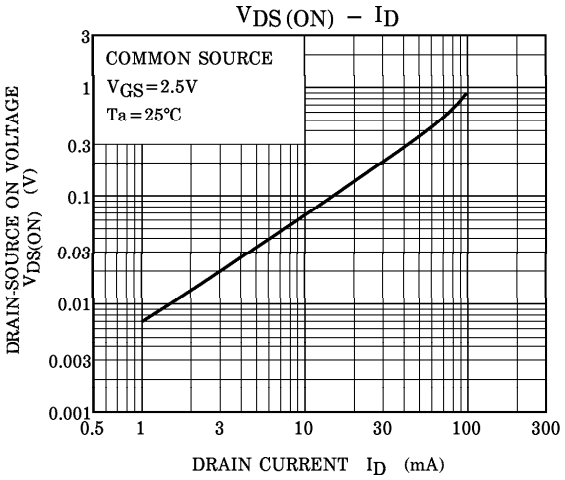
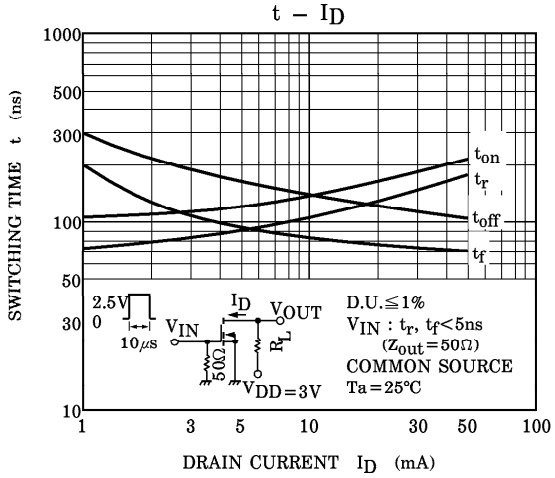
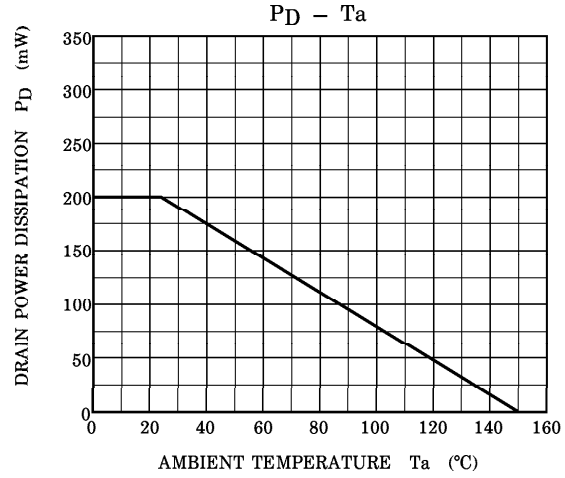

|Yfs| – ID
COMMON SOURCE
VDS=3V
Ta=25°C
FORWARD TRANSFER ADMITTANCE |Yfs| (mS)
DRAIN CURRENT ID (mA)


C – VDS
COMMON SOURCE
VGS=0
f=1MHz
Ta=25°C
Coss
Ciss
Crss
CAPACITANCE C (pF)
DRAIN-SOURCE VOLTAGE VDS (V)


VDS (ON) – ID
COMMON SOURCE
VGS=2.5V
Ta=25°C
DRAIN-SOURCE ON VOLTAGE VDS(ON) (V)
DRAIN CURRENT ID (mA)


t – ID
ton
tr
toff
tf
2.5V
0
10μs
VIN
ID
VOUT
50Ω
RL
VDD=3V
D.U.≦1%
VIN : tr, tf<5ns
(Zout=50Ω)
COMMON SOURCE
Ta=25°C
SWITCHING TIME t (ns)
DRAIN CURRENT ID (mA)


PD – Ta
DRAIN POWER DISSIPATION PD (mW)
AMBIENT TEMPERATURE Ta (°C)