

TOSHIBA FIELD EFFECT TRANSISTOR SILICON N CHANNEL JUNCTION TYPE

# 2SK246

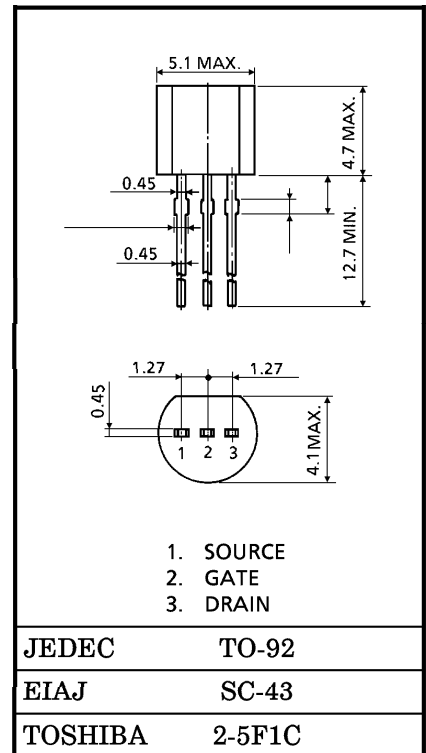
FOR CONSTANT CURRENT, IMPEDANCE  
CONVERTER AND DC-AC HIGH INPUT  
IMPEDANCE AMPLIFIER CIRCUIT APPLICATIONS

Unit in mm

- High Breakdown Voltage :  $V_{GDS} = -50\text{ V}$
- High Input Impedance :  $I_{GSS} = -1\text{ nA (Max.)}$   
( $V_{GS} = -30\text{ V}$ )

MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	$V_{GDS}$	-50	V
Gate Current	$I_G$	10	mA
Drain Power Dissipation	$P_D$	300	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$



Weight : 0.21 g

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

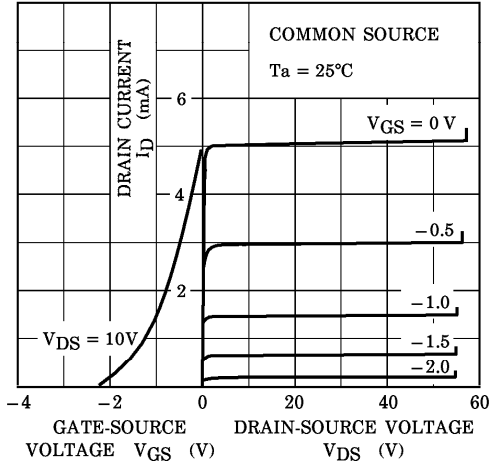
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Cut-off Current	$I_{GSS}$	$V_{GS} = -30\text{ V}, V_{DS} = 0$	—	—	-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS} = 0, I_G = -100\ \mu\text{A}$	-50	—	—	V
Drain Current	$I_{DSS}$ (Note)	$V_{DS} = 10\text{ V}, V_{GS} = 0$	1.2	—	14	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS} = 10\text{ V}, I_D = 0.1\ \mu\text{A}$	-0.7	—	-6.0	V
Forward Transfer Admittance	$ Y_{fs} $	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ kHz}$	1.5	—	—	mS
Input Capacitance	$C_{iss}$	$V_{DS} = 10\text{ V}, V_{GS} = 0, f = 1\text{ MHz}$	—	9.0	—	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DG} = 10\text{ V}, I_D = 0, f = 1\text{ MHz}$	—	2.5	—	pF

(Note) :  $I_{DSS}$  Classification Y : 1.2~3.0 mA, GR : 2.6~6.5 mA, BL : 6~14 mA

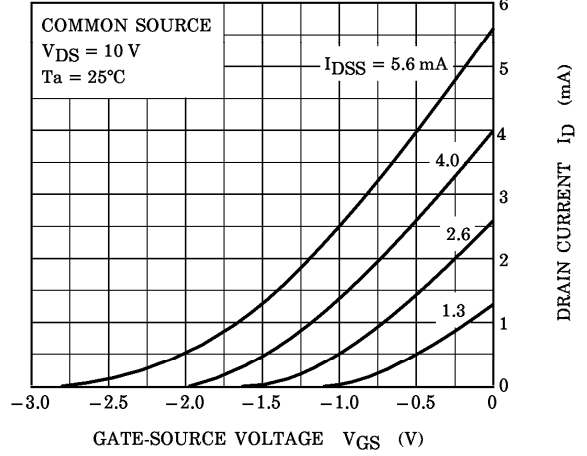
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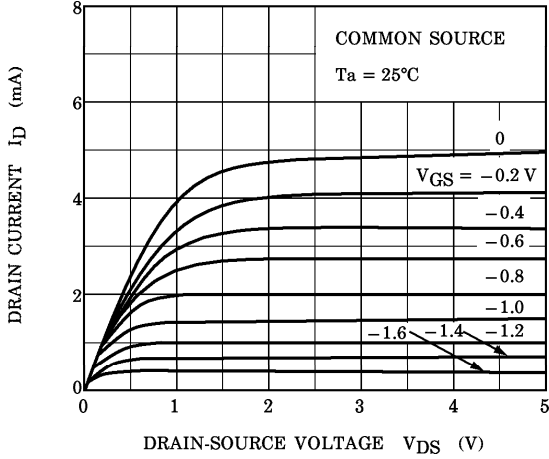
STATIC CHARACTERISTICS



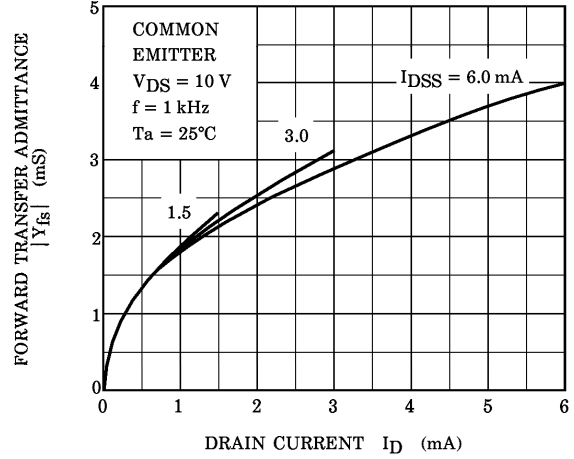
I<sub>D</sub> - V<sub>GS</sub>



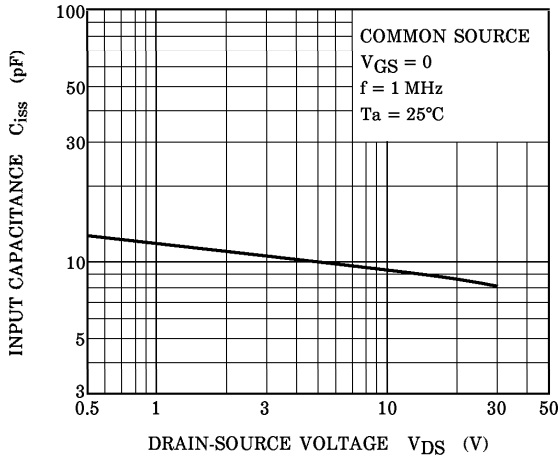
I<sub>D</sub> - V<sub>DS</sub> (LOW VOLTAGE REGION)



|Y<sub>fs</sub>| - I<sub>D</sub>



C<sub>iss</sub> - V<sub>DS</sub>



C<sub>rss</sub> - V<sub>GD</sub>

