

SILICON N CHANNEL JUNCTION TYPE

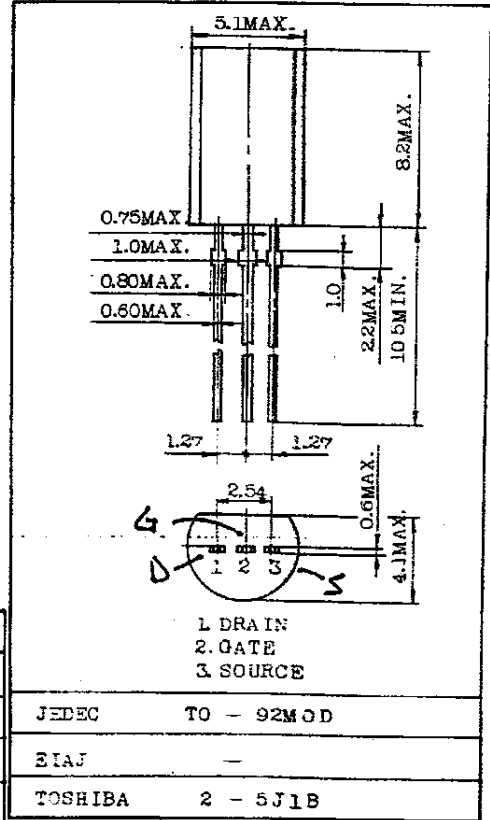
# 2SK147

Unit in mm

LOW NOISE AUDIO AMPLIFIER APPLICATIONS.

FEATURES:

- High  $|y_{fs}|$   
:  $|y_{fs}|=40\text{mS(Typ.)}$  ( $V_{DS}=10\text{V}$ ,  $V_{GS}=0$ ,  $I_{DSS}=5\text{mA}$ )
- High Breakdown Voltage :  $V_{GDS}=-40\text{V}$
- Low Noise :  $NF=1.0\text{dB}$  (Typ.)  
( $V_{DS}=10\text{V}$ ,  $I_D=5\text{mA}$ ,  $f=1\text{kHz}$ ,  $R=100\Omega$ )
- High Input Impedance  
:  $I_{GSS}=-1\text{nA}$  (Max.) ( $V_{GS}=-30\text{V}$ )
- High Drain Power Dissipation :  $P_D=600\text{mW}$
- Complementary to 2SJ72.



MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	V <sub>GDS</sub>	-40	V
Gate Current	I <sub>G</sub>	10	mA
Drain Power Dissipation	P <sub>D</sub>	600	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

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TOSHIBA 2 - 5J1B

Weight : 0.36g

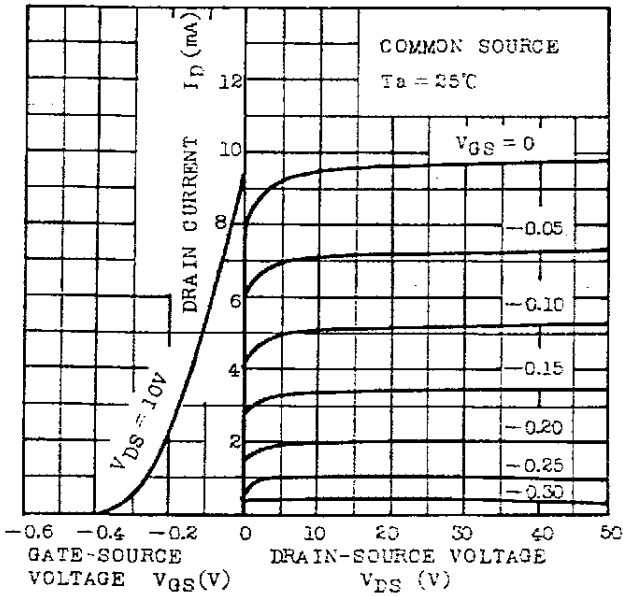
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =-30V, V <sub>DS</sub> =0	-	-	-1.0	nA
Gate-Drain Breakdown Voltage	V(BR)GDS	V <sub>DS</sub> =0, I <sub>G</sub> =-100μA	-40	-	-	V
Drain Current	I <sub>DSS</sub> (Note 1)	V <sub>DS</sub> =10V, V <sub>GS</sub> =0	5.0	-	30	mA
Gate-Source Cut-off Voltage	V <sub>GS</sub> (OFF)	V <sub>DS</sub> =10V, I <sub>D</sub> =0.1μA	-0.3	-	-1.2	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1kHz, (Typ: I <sub>DSS</sub> =5mA)	30	40	-	mS
Input Capacitance	C <sub>iss</sub>	V <sub>DS</sub> =10V, V <sub>GS</sub> =0, f=1MHz	-	75	-	pF
Reverse Transfer Capacitance	C <sub>rss</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =0, f=1MHz	-	15	-	pF
Noise Figure (Note 2)	NF(1)	V <sub>DS</sub> =10V, R <sub>g</sub> =100Ω I <sub>D</sub> =5mA, f=100Hz	-	5	10	dB
	NF(2)	V <sub>DS</sub> =10V, R <sub>g</sub> =100Ω I <sub>D</sub> =5mA, f=1kHz	-	1	2	dB

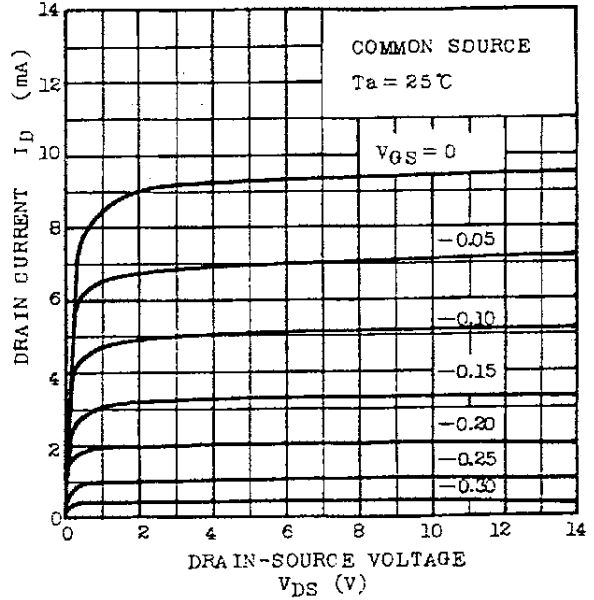
Note 1 : I<sub>DSS</sub> Classification GR : 5.0~10.0, BL : 8.0~16.0, V : 14.0~30.0

2 : When low noise audio amplifier, recommended V<sub>DS</sub> up to 15V.

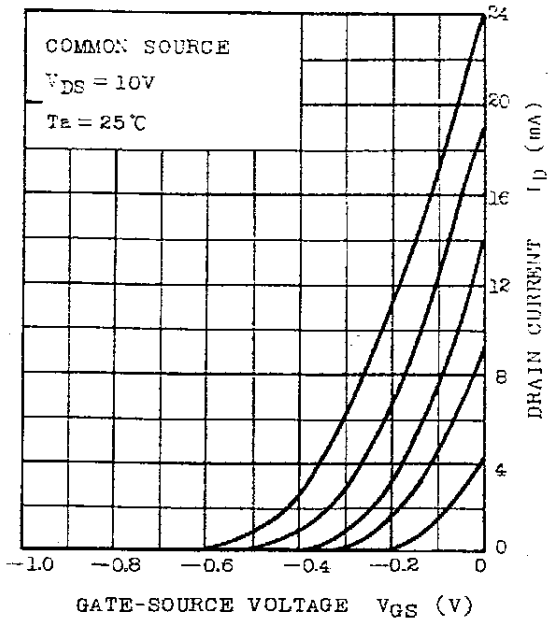
STATIC CHARACTERISTICS



ID - VDS (LOW VOLTAGE REGION)



ID - VGS



|Yfs| - ID

