

SILICON N CHANNEL JUNCTION TYPE

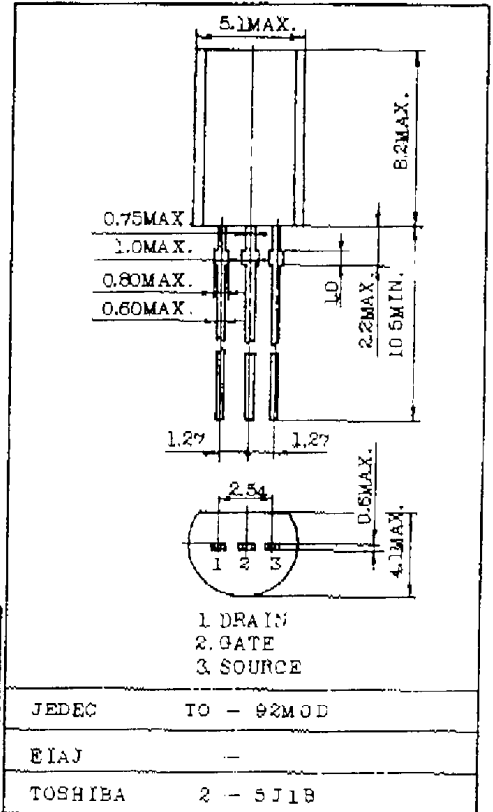
# 2SK147

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Gate-Drain Voltage	$V_{GDS}$	-40	V
Gate Current	$I_G$	10	mA
Drain Power Dissipation	$P_D$	600	mW
Junction Temperature	$T_j$	125	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55~125	$^\circ\text{C}$

JEDEC TO-92MOD  
EIAJ -  
TOSHIBA 2-5J1B  
Weight : 0.36g

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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GSS}$	$V_{GS}=-30\text{V}$ , $V_{DS}=0$	-	-	-1.0	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS}=0$ , $I_G=-100\mu\text{A}$	-40	-	-	V
Drain Current	$I_{DSS}$ (Note 1)	$V_{DS}=10\text{V}$ , $V_{GS}=0$	5.0	-	30	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$	$V_{DS}=10\text{V}$ , $I_D=0.1\mu\text{A}$	-0.3	-	-1.2	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $V_{GS}=0$ , $f=1\text{kHz}$ , (Typ: $I_{DSS}=5\text{mA}$ )	30	40	-	mS
Input Capacitance	$C_{iss}$	$V_{DS}=10\text{V}$ , $V_{GS}=0$ , $f=1\text{MHz}$	-	75	-	pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10\text{V}$ , $I_D=0$ , $f=1\text{MHz}$	-	15	-	pF
Noise Figure (Note 2)	NF(1)	$V_{DS}=10\text{V}$ , $R_g=100\Omega$ , $I_D=5\text{mA}$ , $f=100\text{Hz}$	-	5	10	dB
	NF(2)	$V_{DS}=10\text{V}$ , $R_g=100\Omega$ , $I_D=5\text{mA}$ , $f=1\text{kHz}$	-	1	2	dB

Note 1 :  $I_{DSS}$  Classification GR : 5.0~10.0, BL : 8.0~16.0, V : 14.0~30.0

2 : When low noise audio amplifier, recommended  $V_{DS}$  up to 15V.