

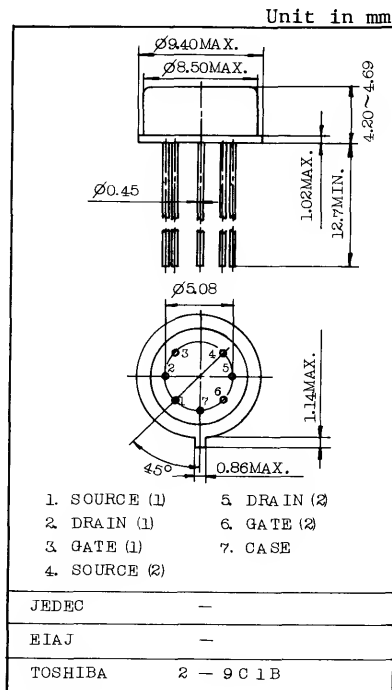
2SK72

SILICON N CHANNEL JUNCTION DUAL TYPE (COMPLETELY SEPARATED TYPE)

DIFFERENTIAL AMPLIFIER APPLICATIONS.

FEATURES:

- Ultra Low Noise:
 $NF=0.5dB$ (Typ.) at $R_g=100k\Omega$, $f=120Hz$
 $V_{N(p-p)}=1.7\mu V$ (Typ.) at $R_g=10k\Omega$, $4f=5\sim 50Hz$
- High Gain : $|y_{fs}|=1.5\sim 6.5mS$
- Low Offset : $|V_{GS1}-V_{GS2}|=10mV$ (Max.)
- Good Tracking: $\Delta|V_{GS1}-V_{GS2}|/\Delta T_a=30\mu V/^{\circ}C$ (Typ.)
- High Input Resistance: $I_G=-100pA$ (Max.)
 at $V_{DS}=10V$, $I_D=400\mu A$
- Similar characteristics as 2SK48.



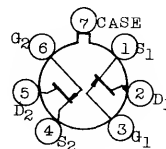
Weight : 0.90g

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Gate-Drain Voltage		V_{GDS}	-20	V
Gate 1 - Gate 2 Voltage		V_{G1G2}	± 80	V
Gate Current		I_G	10	mA
Drain Power Dissipation	(One Side)	PD_1	150	mW
	(Total)	PD_2	200	mW
Junction Temperature		T_j	150	$^{\circ}C$
Storage Temperature Range		T_{stg}	$-65 \sim 150$	$^{\circ}C$

PIN CONNECTION

(BOTTOM VIEW)



ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	I_G	$V_{DS}=10V, I_D=400\mu A$	-	-	-0.1	nA
Gate-Drain Breakdown Voltage	$V_{(BR)GDS}$	$V_{DS}=0, I_G=-0.1mA$	-20	-	-	V
Drain Current	I_{DSS} (Note)	$V_{DS}=10V, V_{GS}=0$	0.6	-	6.5	mA
Gate-Source Cut-off Voltage	$V_{GS(OFF)}$ (Note)	$V_{DS}=10V, I_D=0.1\mu A$	-0.5	-	-3.3	V
Forward Transfer Admittance	$ y_{fs} $ (Note)	$V_{DS}=10V, V_{GS}=0, f=1kHz$	1500	-	6500	μS
Gate Capacitance	C_G	$V_{GS}=-10V, V_{DS}=0, f=1MHz$	-	-	9.0	pF
Noise Voltage (peak-peak)	$V_N(p-p)$	$V_{DS}=5V, I_D=450\mu A, R_g=10k\Omega, f=5 \sim 50Hz$	-	1.7	4.0	μV
Noise Figure	NF	$V_{DS}=10V, I_D=450\mu A, R_g=100k\Omega, f=120Hz$	-	0.5	5.0	dB
Drain Current Ratio	$I_{DSS(S)} / I_{DSS(L)}$	$V_{DS}=10V, V_{GS}=0$	0.9	-	1.0	
Forward Transfer Admittance Ratio	$ y_{fs}(S) / y_{fs}(L) $	$V_{DS}=10V, V_{GS}=0, f=1kHz$	0.9	-	1.0	
Differential Gate-Source Voltage	$ V_{GS1}-V_{GS2} $	$V_{DG}=10V, I_D=400\mu A$	-	-	10	mV
		$V_{DG}=10V, I_D=200\mu A$	-	-	10	mV
		$V_{DG}=10V, I_D=50\mu A$	-	-	10	mV
Gate-Source Voltage Differential Drift	$\frac{\Delta V_{GS1}-V_{GS2} }{\Delta T_a}$	$V_{DG}=10V, I_D=200\mu A, T_a=0 \sim 60^\circ C$	-	30	-	$\mu V/^\circ C$

Note: According to the value of I_{DSS1} , $V_{GS(OFF)1}$ and $|y_{fs}|_1$, the 2SK72 is classified as follows.

CLASSIFICATION	I_{DSS1} (mA)		$V_{GS(OFF)1}$ (V)		$ y_{fs} _1$ (μS)	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
2SK72-0	0.60	1.4	-0.50	-1.40	1500	3700
2SK72-Y	1.20	3.0	-0.70	-2.3	2000	5000
2SK72-GR	2.60	6.5	-1.0	-3.3	2600	6500