

KT526-5 (9014)

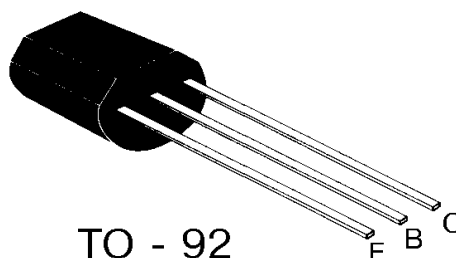
NPN Epitaxial Silicon Transistor

revision Oktober 1999



PRE-AMPLIFIER, LOW LEVEL & LOW NOISE

- High total power dissipation (PT=450mW)
- High h_{FE} and good linearity



TO - 92

CLASSIFICATION h_{FE}

Classification	A	B	C	D
h_{FE}	60-150	100-300	200-600	400-1000

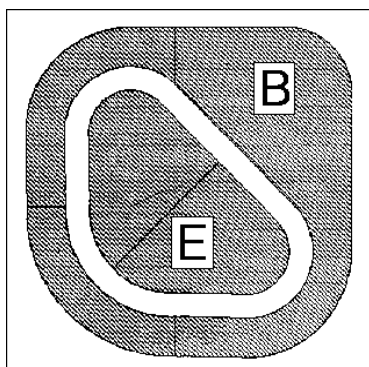
Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Symbol	Parameter	Rating	Unit
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
P_C	Collector Dissipation	450	mW
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55 ÷ 150	$^{\circ}\text{C}$

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

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 100\mu\text{A}$, $I_E = 0$	50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}$, $I_B = 0$	45			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 100\mu\text{A}$, $I_C = 0$	5			V
I_{CBO}	Collector Cutoff Current	$V_{CB} = 50\text{V}$, $I_E = 0$			50	nA
I_{EBO}	Emitter Cutoff Current	$V_{EB} = 5\text{V}$, $I_C = 0$			50	nA
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$	60	280	1000	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.14	0.3	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 100\text{mA}$, $I_B = 5\text{mA}$		0.84	1.0	V
$V_{BE(on)}$	Base-Emitter On Voltage	$V_{CE} = 5\text{V}$, $I_C = 2\text{mA}$	0.58	0.63	0.7	V
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		2.2	3.5	pF
f_T	Current Gain-Bandwidth Product	$V_{CE} = 5\text{V}$, $I_C = 10\text{mA}$	150	270		MHz
NF	Noise Figure	$V_{CE} = 5\text{V}$, $I_C = 0.2\text{mA}$, $f = 1\text{KHz}$, $R_S = 2\text{K}\Omega$		0.9	10	dB

Pad Location



- DIE SIZE 350 X 350 μm
- DIE THICKNESS Typ. 470 μm
- BONDING PAD SIZE
 - Emitter 140 x 140 μm
 - Base 110 x 110 μm