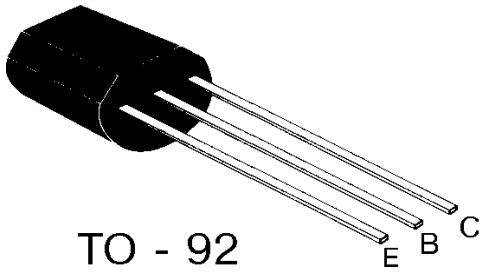
KT524-5
(8050)

NPN Epitaxial Silicon Transistor

revision October 1999

2W OUTPUT AMPLIFIER OF PORTABLE RADIOS IN CLASS B PUSH-PULL OPERATION

- Collector Current I_C = 1.5A
- Collector Dissipation P_C = 2W (P_C = 25^{0}C)



CLASSIFICATION h_{FE} (2)

Classification	B	C	D
h_{FE}	85-160	120-200	160-300

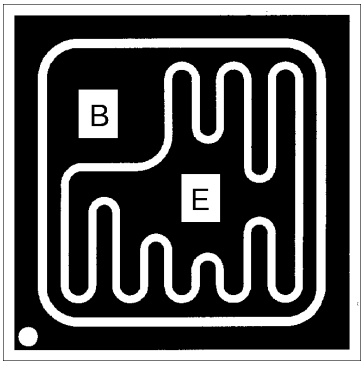
Absolute Maximum Ratings (Ta=25^{0}C)

Symbol	Parameter	Rating	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	1.5	A
P_C	Collector Dissipation	1	W
T_j	Junction Temperature	150	^{0}C
Tstg	Storage Temperature	-65 ÷ 150	^{0}C

Electrical Characteristics (T_a = 25^{o}C)

Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	I_C =100μA, I_E =0	40			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C =2mA, I_B =0	25			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E =100μA, I_C =0	6			V
I_{CBO}	Collector Cutoff Current	V_{CB}=35V, I_E =0			100	nA
I_{EBO}	Emitter Cutoff Current	V_{EB}=6V, I_C =0			100	nA
$h_{FE}1$	DC Current Gain	V_{CE}=1V, I_C =5mA	45	135		
$h_{FE}2$		V_{CE}=1V, I_C =100mA	85	160	300	
$h_{FE}3$		V_{CE}=1V, I_C =800mA	40	110		
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C =800mA, I_B =80mA		0.28	0.5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C =800mA, I_B =80mA		0.98	1.2	V
V_{BE}	Base-Emitter Voltage	V_{CE}=1V, I_C =10mA		0.66	1	V
C_{ob}	Output Capacitance	V_{CB}=10V, I_E =0, f =1MHz		9.0		pF
f_T	Current Gain-Bandwidth Product	V_{CE}=10V, I_C =50mA	100	190		MHz

Pad Location



- DIE SIZE 600 X 600 μm
- DIE THICKNESS Typ. 470 μm

- BONDING PAD SIZE
  Emitter 159 x 156 μm
  Base 164 x 164 μm