

**TO-92 Plastic-Encapsulate Transistors****KSA708** TRANSISTOR (PNP)**FEATURES**

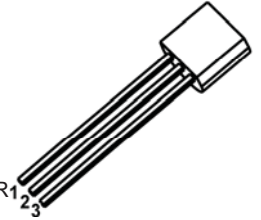
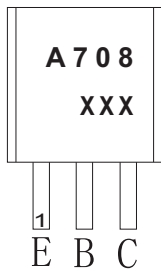
- Low Saturation Medium Current Application

TO - 92

1.EMITTER

2.BASE

3.COLLECTOR

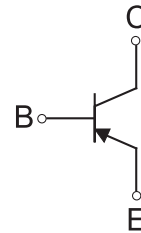
**MARKING**

A708=Device code

XXX=Code

GXX=Green molding compound device

CXX=Normal molding compound device

Equivalent Circuit**ORDERING INFORMATION**

Part Number	Package	Packing Method	Pack Quantity
KSA708	TO-92	Bulk	1000pcs/Bag
KSA708-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	-80	V
V _{CEO}	Collector-Emitter Voltage	-60	V
V _{EBO}	Emitter-Base Voltage	-8	V
I _C	Collector Current -Continuous	-700	mA
P _D	Collector Power Dissipation	800	mW
R _{θJA}	Thermal Resistance from Junction to Ambient	156.2	°C /W
T _J , T _{stg}	Operation Junction and Storage Temperature Range	-55~+150	°C

ELECTRICAL CHARACTERISTICS

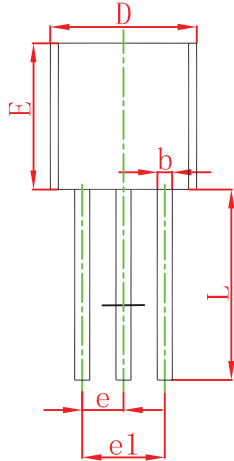
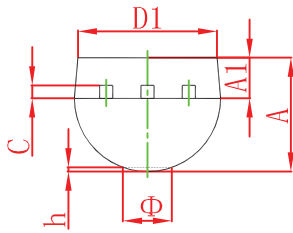
$T_a=25\text{ }^{\circ}\text{C}$ unless otherwise specified

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-0.1\text{mA}, I_E=0$	-80			V
Collector-emitter breakdown	$V_{(BR)CEO}$	$I_C=-10\text{mA}, I_B=0$	-60			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-0.1\text{mA}, I_C=0$	-8			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60\text{V}, I_E=0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=-5\text{V}, I_C=0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE}=-2\text{V}, I_C=-50\text{mA}$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-500\text{mA}, I_B=-50\text{mA}$			-1.1	V
Collector output capacitance	C_{ob}	$V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$		13		pF
Transition frequency	f_T	$V_{CE}=-10\text{V}, I_C=-50\text{mA}$		50		MHz

CLASSIFICATION OF h_{FE}

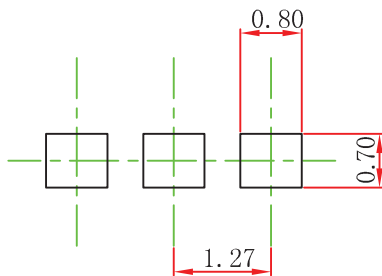
RANK	R	O	Y
RANGE	40-80	70-140	120-240

TO-92 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



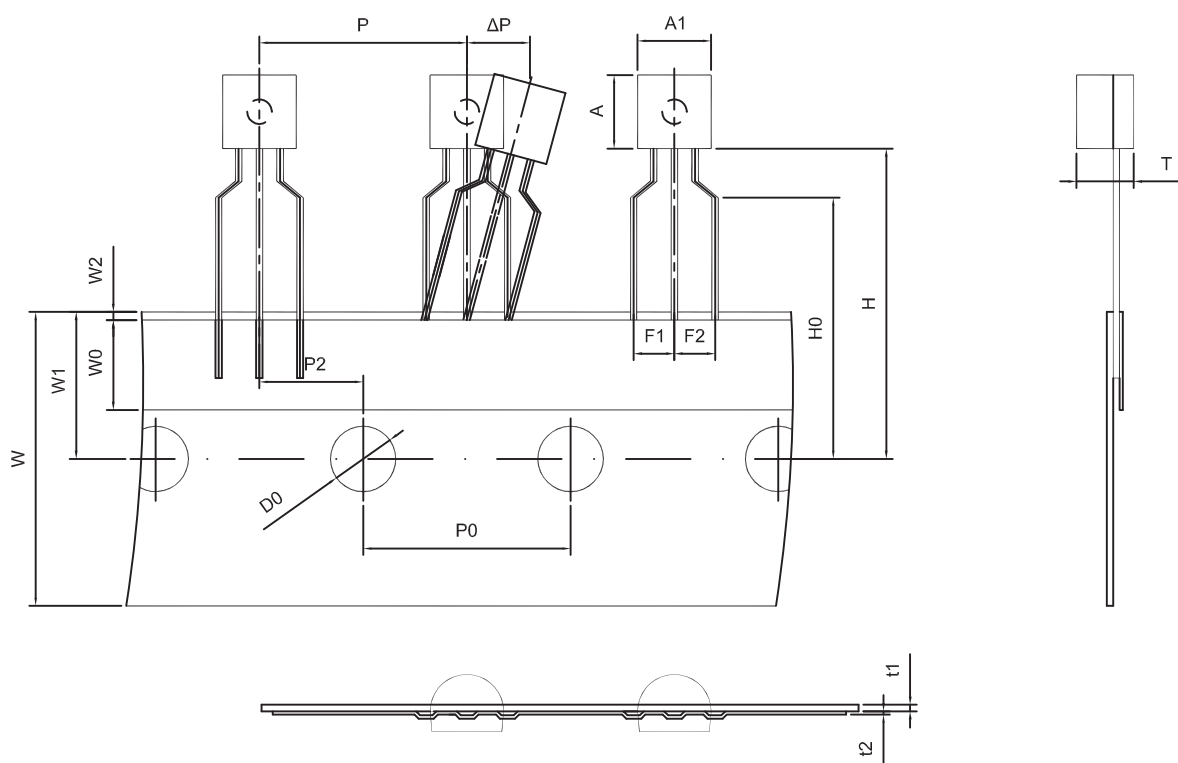
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

NOTICE

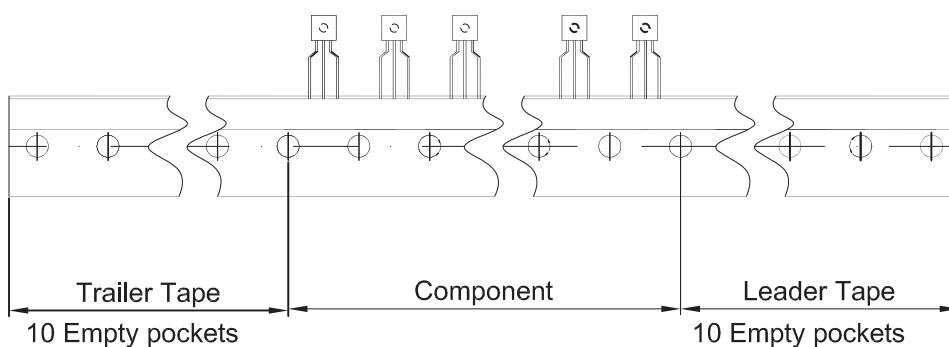
JSCJ reserves the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JSCJ does not assume any liability arising out of the application or use of any product described herein.

TO-92 PACKAGE TAPING DIMENSION



Dimiensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
4.5	4.5	3.5	12.7	12.7	6.35	2.5	2.5	18.0
W0	W1	W2	H	H0	D0	t1	t2	ΔP
6.0	9.0	1.0 MAX.	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92	2000 pcs	333×162×43	20,000 pcs	350×340×250