

TO-92MOD Plastic-Encapsulate Transistors

KSC2331 TRANSISTOR (NPN)

FEATURE

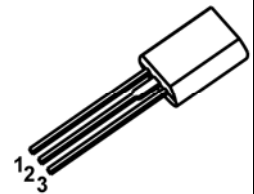
- Complement to KSA931
- High collector-Base Voltage: $V_{CBO}=80V$
- Collector current: $I_C=700mA$
- Collector dissipation: $P_C=1W$

MAXIMUM RATINGS ($T_a=25^{\circ}C$ 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_C	Collector Power Dissipation	1	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{stg}	Storage Temperature	-55-150	$^{\circ}C$

TO-92MOD

- 1.EMITTER
2.COLLECTOR
3.BASE



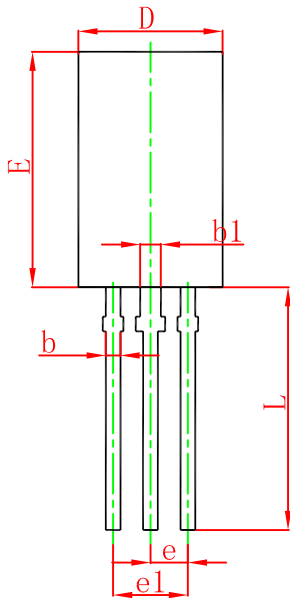
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}C$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C=100\mu A, I_E=0$	80			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C=10mA, I_B=0$	60			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E=10\mu A, I_C=0$	8			V
Collector cut-off current	I_{CBO}	$V_{CB}=60V, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			0.1	μA
DC current gain	h_{FE}	$V_{CE}=2V, I_C=50mA$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500mA, I_B=50mA$			0.7	V
Base-emitter voltage	$V_{BE(sat)}$	$I_C=500mA, I_B=50mA$			1.2	V
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$		8		pF
Transition frequency	f_T	$V_{CE}=10V, I_C=50mA$	30			MHz

CLASSIFICATION OF h_{FE}

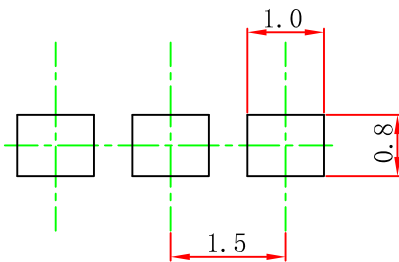
Rank	R	O	Y
Range	40-80	70-140	120-240

TO-92MOD Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	4.800	5.000	0.189	0.197
A1	1.730	2.030	0.068	0.080
b	0.440	0.600	0.017	0.024
b1	0.940	1.100	0.037	0.043
c	0.350	0.450	0.014	0.018
D	5.900	6.100	0.232	0.240
D1	4.000		0.157	
E	8.500	8.700	0.335	0.343
e	1.500 TYP.		0.059 TYP.	
e1	2.900	3.100	0.114	0.122
L	13.800	14.200	0.543	0.559
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92MOD Suggested Pad Layout



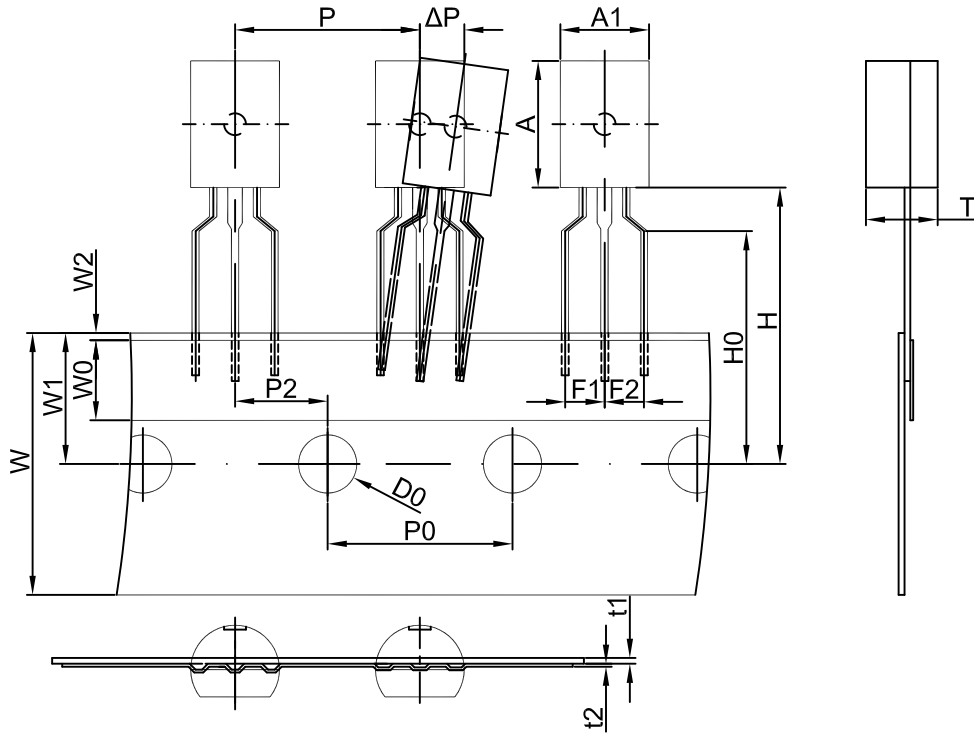
Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

NOTICE

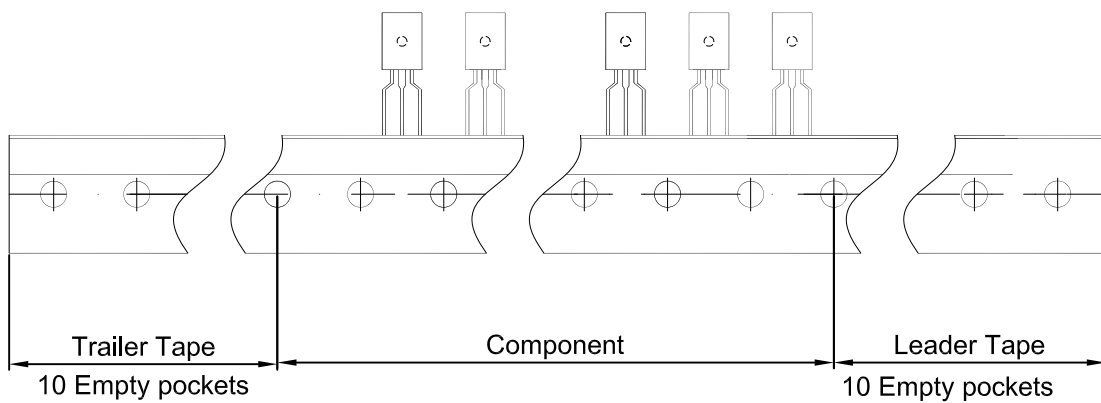
JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

TO-92MOD PACKAGE TAPEING DIMENSION



Dimensions are in millimeter

A1	A	T	P	P0	P2	F1	F2	W
6.0	8.6	4.9	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	19.0	16.0	4.0	0.4	0.2	0



Package	Box	Box Size(mm)	Carton	Carton Size(mm)
TO-92MOD	2000 pcs	333×245×43	20,000 pcs	573×404×266