



DONGGUAN NANJING ELECTRONICS LTD.,

TO-92 Plastic-Encapsulate Transistors

KTC3192 TRANSISTOR(NPN)

FEATURE

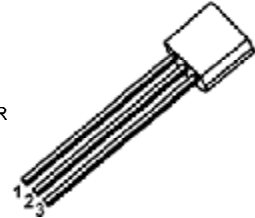
- High Power Gain: $G_{pe}=29\text{dB(Typ)}(f=10.7\text{MHz})$

MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CB0}	Collector-Base Voltage	35	V
V_{CE0}	Collector-Emitter Voltage	30	V
V_{EB0}	Emitter-Base Voltage	4	V
I_c	Collector Current -Continuous	50	mA
P_c	Collector Power Dissipation	625	mW
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

TO-92

1. EMITTER
2. COLLECTOR
3. BASE



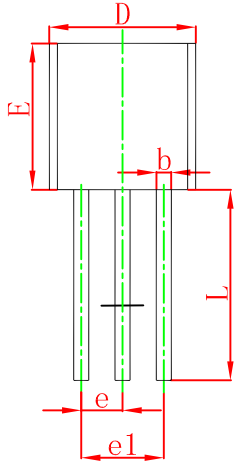
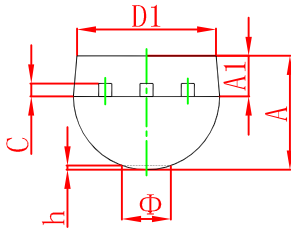
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_c = 100\mu\text{A}, I_E = 0$	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_c = 1\text{mA}, I_B = 0$	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = 100\mu\text{A}, I_c = 0$	4			V
Collector cut-off current	I_{CBO}	$V_{CB} = 35\text{V}, I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 4\text{V}, I_c = 0$			1.0	μA
DC current gain	h_{FE}	$V_{CE} = 12\text{V}, I_c = 2\text{mA}$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_c = 10\text{mA}, I_B = 1\text{mA}$			0.4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_c = 10\text{mA}, I_B = 1\text{mA}$			1.0	V
Transition frequency	f_T	$V_{CE} = 10\text{V}, I_c = 1\text{mA}$	100		400	MHz
Collector output capacitance	C_{ob}	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$	1.4		3.2	pF
Collector-base time constant	$C_{c,rb}$	$V_{CE} = 10\text{V}, I_c = 1\text{mA}, f = 30\text{MHz}$	10		50	pS
Power gain	G_{pe}	$V_{CC} = 6\text{V}, I_c = 1\text{mA}, f = 10.7\text{MHz}$	27		33	dB

CLASSIFICATION OF h_{FE}

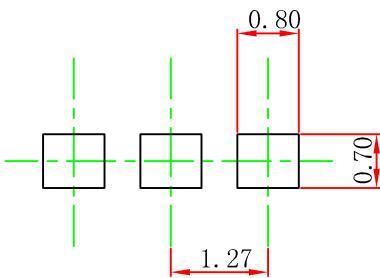
Rank	R	O	Y
Range	40-80	70-140	120-240

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

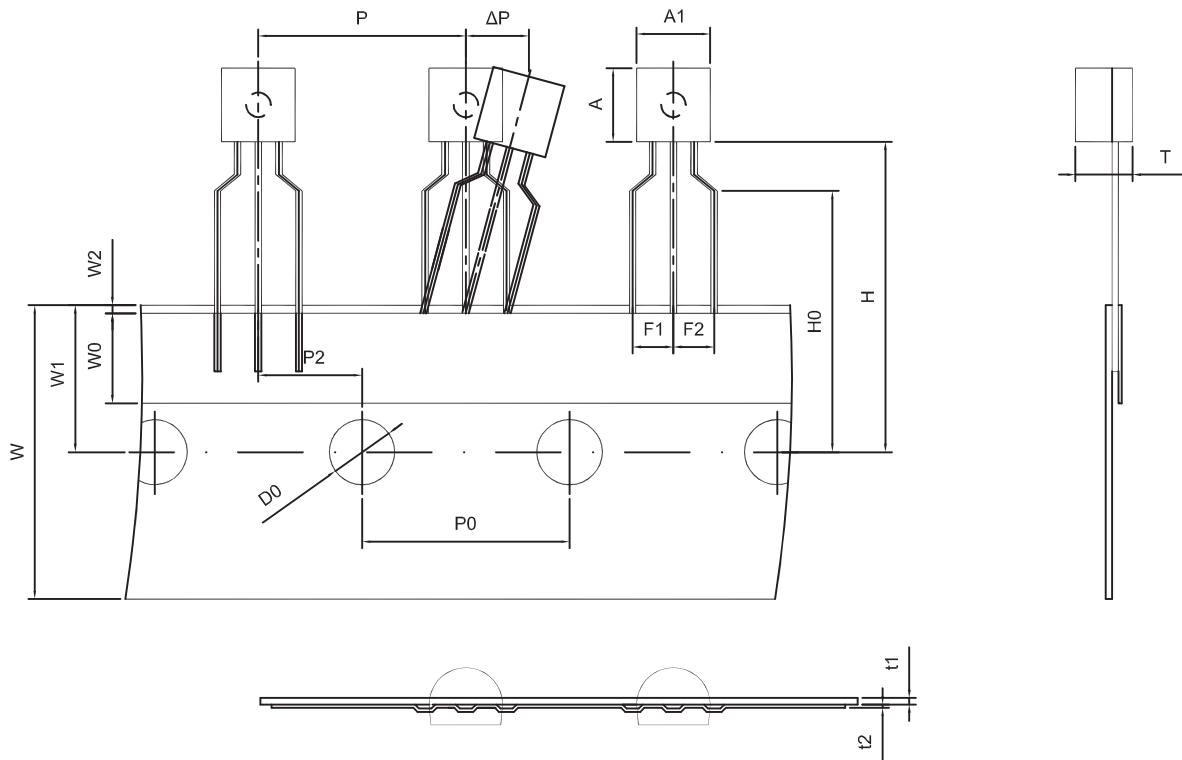
TO-92 Suggested Pad Layout



Note:

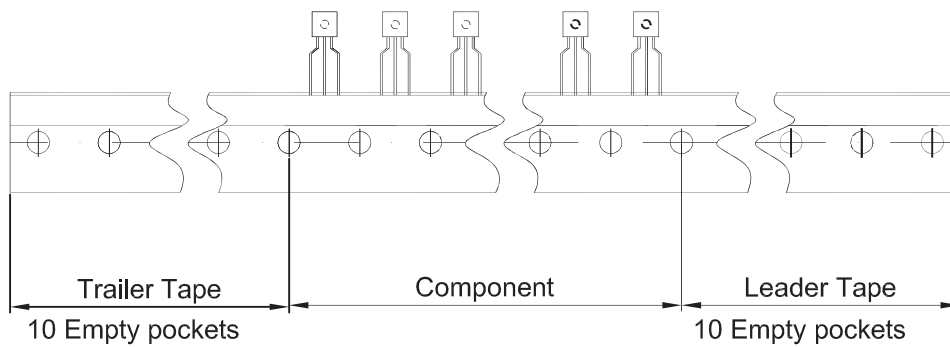
1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

TO-92 PACKAGE TAPEING 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