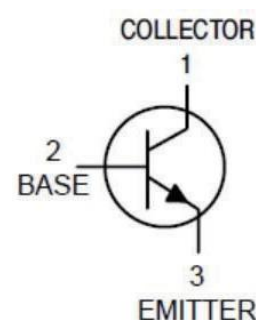


**BIPOLAR TRANSISTOR (NPN)**
**Features**

The NPN Bipolar Transistor is designed for use in linear and switching applications. The device is housed in the TO-92 package, which is designed for medium power applications.

These are PbFree Devices

Complement to:BC327


**Maximum Ratings (Ta = 25°)**

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	$BV_{CBS}$	50	V
Collector-emitter voltage	$BV_{CEO}$	45	V
Emitter-base voltage	$BV_{EBO}$	5	V
Collector current	$I_{CM}$	800	mA
Collector Power Dissipation	$P_C$	0.625	W
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55~+150	°C


**Electrical Characteristics (Ta=25°C)**

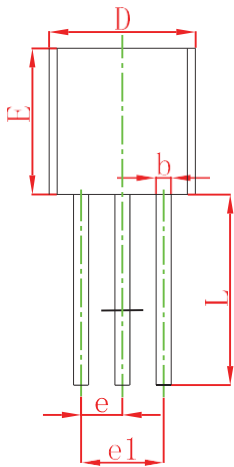
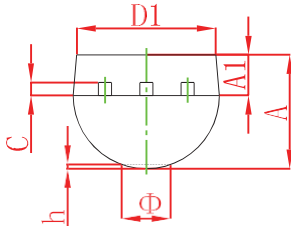
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Emitter Breakdown Voltage	$BV_{CES}$	$I_C=100\mu A, I_E=0$	50			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=10mA, I_B=0$	45			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=100\mu A, I_C=0$	5			V
collector-emitter cut-off current	$I_{CES}$	$V_{CE}=45V, I_B=0$			0.1	$\mu A$
DC current gain	$H_{FE1}$	$V_{CE}=1V, I_C=100mA$	100		630	
DC current gain	$H_{FE2}$	$V_{CE}=1V, I_C=300mA$	60			
collector-emitter saturation voltage	$V_{CESAT}$	$I_C=500mA, I_B=50mA$			0.7	V
Base-Emitter On Voltage	$V_{BEON}$	$V_{CE}=1V, I_C=300mA$			1.2	V
Transition frequency	$f_T$	$V_{CE}=5V, I_C=10mA$		100		MHZ
Output Capacitance	$C_{ob}$	$V_{CB} = 10 V, f = 1.0 MHz$		15		pF

 **$H_{FE}$  Classification**

Classification	16	25	40
$h_{FE1}$	100-250	160-400	250-630

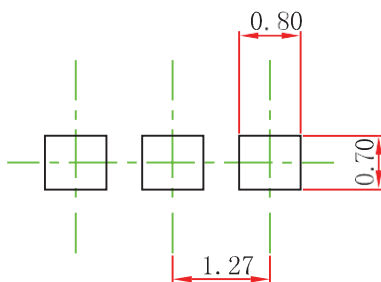
**BIPOLAR TRANSISTOR (NPN)**

**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**



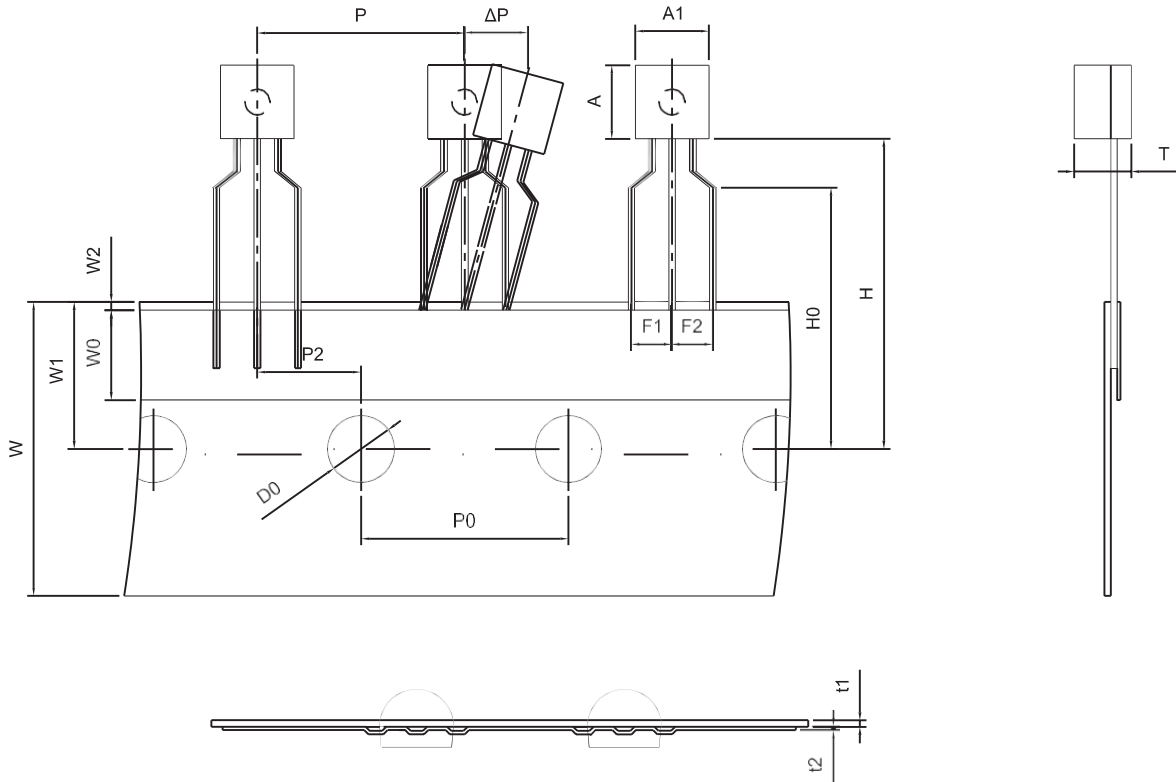
**Note:**

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

**BIPOLAR TRANSISTOR (NPN)**

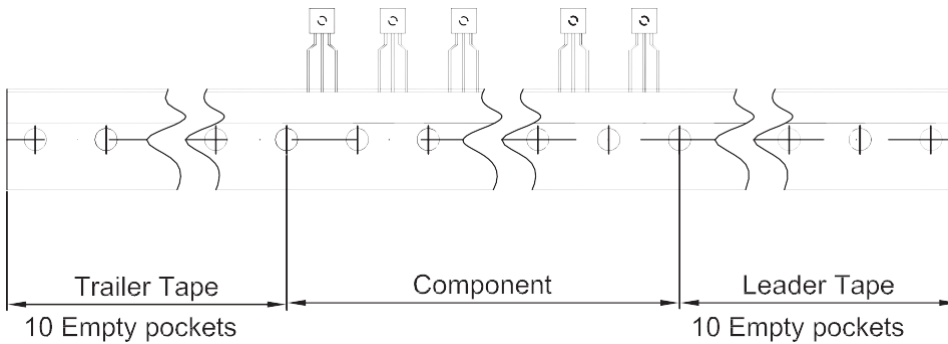
**TO-92 7DSH DQG 5HH0**

**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