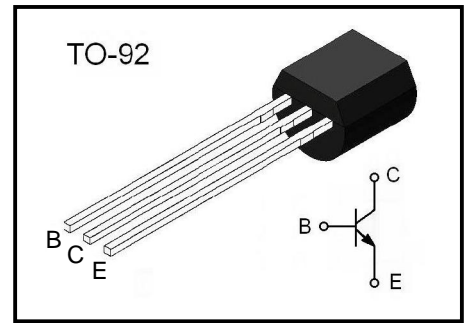


Plastic-Encapsulate Transistors

TRANSISTOR(NPN)



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

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CB0}	600	V
Collector-Emitter Voltage	V_{CE0}	400	V
Emitter -Base Voltage	V_{EB0}	7	V
Collector Current-Continuous	I_C	0.18	A
Collector Power Dissipation	P_C	0.75	W
Junction Temperature	T_j	-55-+150	°C
Storage Temperature	T_{stg}	-55-+150	°C

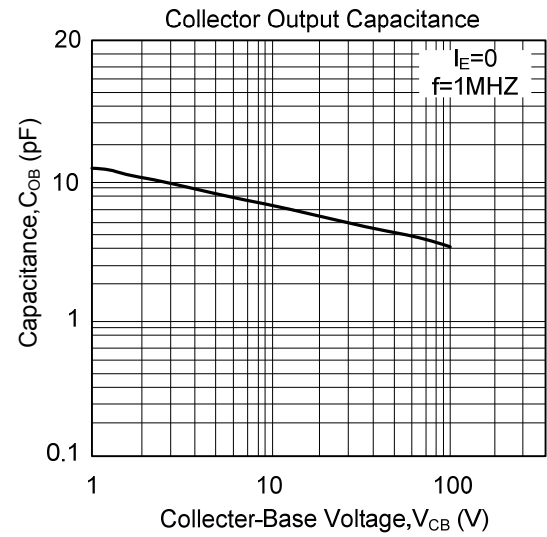
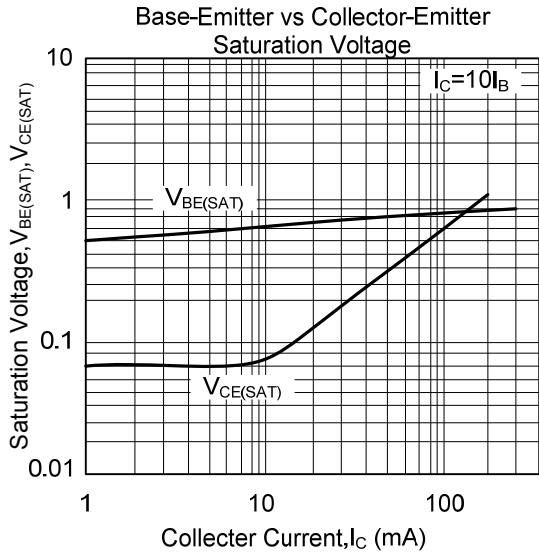
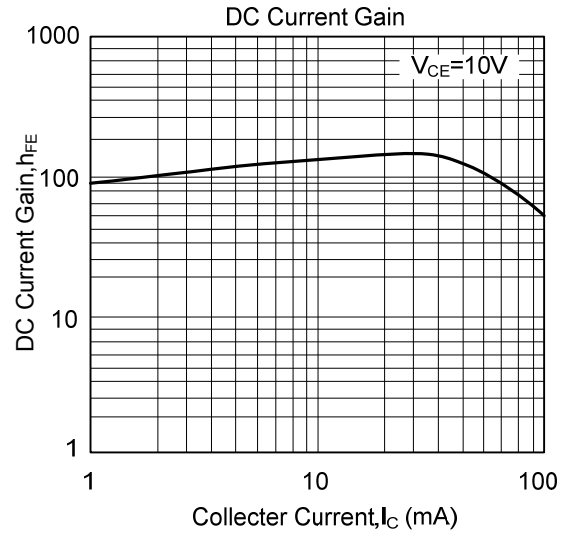
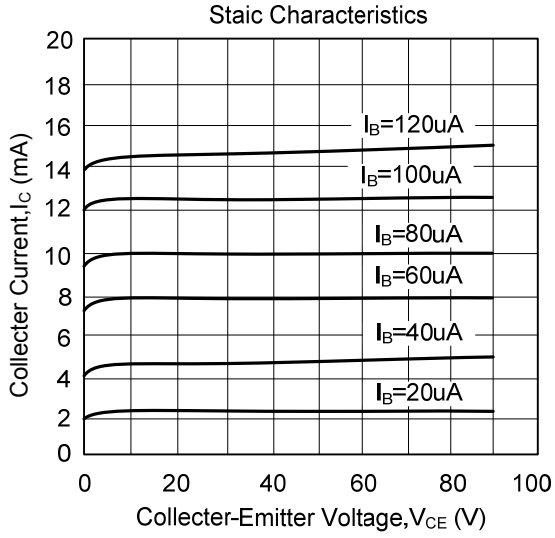
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted.)

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	$V_{(BR)CB0}$	$I_C = 100\mu A, I_E = 0$	600			V
Collector-emitter breakdown voltage	$V_{(BR)CE0}$	$I_C = 1mA, I_B = 0$	400			V
Emitter-base breakdown voltage	$V_{(BR)EB0}$	$I_E = 100\mu A, I_C = 0$	7			V
Collector Cutoff Cut-Off Current	I_{CB0}	$V_{CB} = 600V, I_E = 0$			0.1	μA
Collector Emitter Cut-Off Current	I_{CE0}	$V_{CE} = 400V, I_B = 0$			0.1	μA
Emitter Cutoff Cut-Off Current	I_{EB0}	$V_{EB} = 7V, I_C = 0$			0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE} = 20V, I_C = 20mA$	10		40	
	$h_{FE(2)}$	$V_{CE} = 10V, I_C = 0.25mA$	5			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 10mA$			0.5	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C = 50mA, I_B = 10mA$			1.2	V
Current Gain Bandwidth Product	f_T	$V_{CE}=20V, I_B=20mA f=1 MHz$	8			MHz
Fall Time	tf	$V_{CC} = 45V, I_B=50mA$			0.5	μs
Storage Time	ts	$I_{B1} = - I_{B2} = 5mA$			2.5	μs

CLASSIFICATION OF h_{FE1}

RANK	YFW13001-A	YFW13001- B	YFW13001-C	YFW13001-D	YFW13001-E	YFW13001-F
RANGE	10-15	15-20	20-25	25-30	30-35	35-40

Typical characteristics



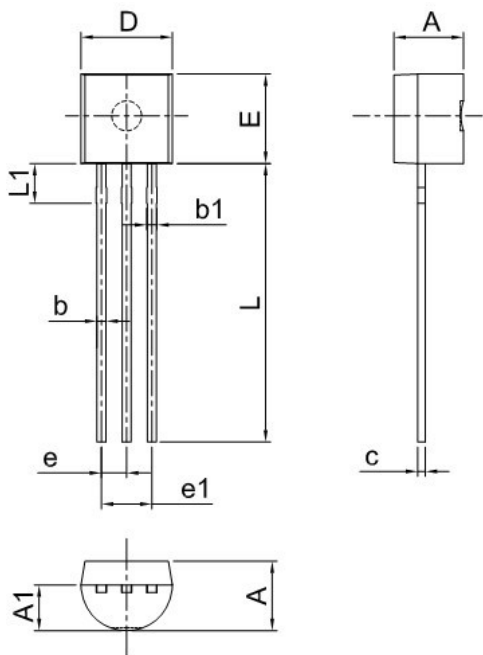
Ordering information

Package	Packing Description	Base Quantity
TO-92	Bulk	1000pcs/Bag
	Tape	2000pcs/Box

Package Dimensions

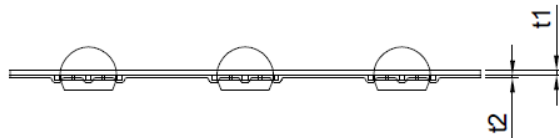
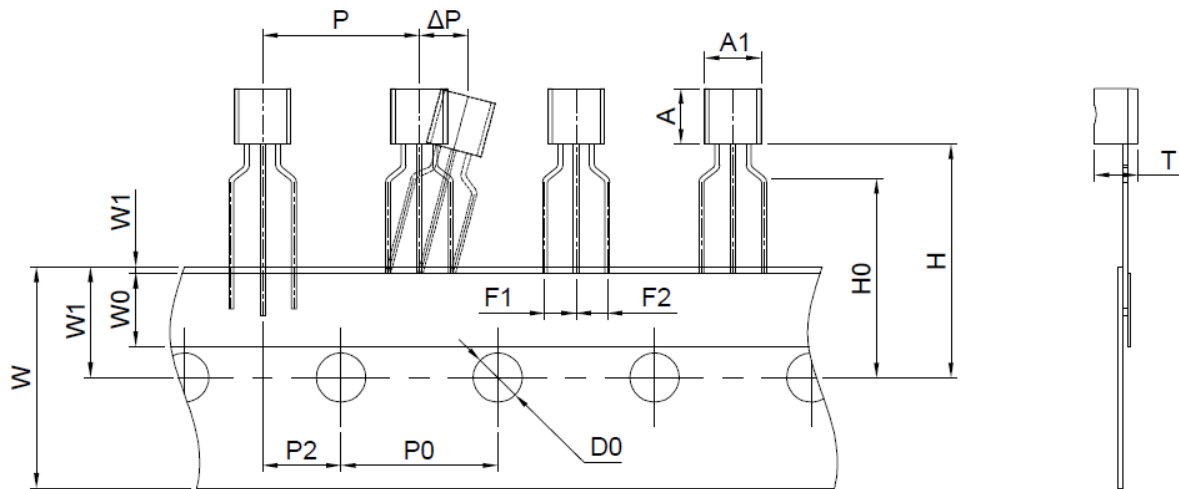
TO-92

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	3.30	3.70	0.130	0.146
A1	2.30	2.70	0.091	0.106
b	0.40	0.50	0.016	0.020
b1	0.50	0.70	0.020	0.028
c	0.35	0.45	0.014	0.018
D	4.45	4.70	0.175	0.185
E	4.40	4.65	0.173	0.183
e	1.17	1.37	0.046	0.054
e1	2.34	2.64	0.092	0.104
L	13.50	14.50	0.531	0.571
L1	1.80	2.20	0.071	0.087

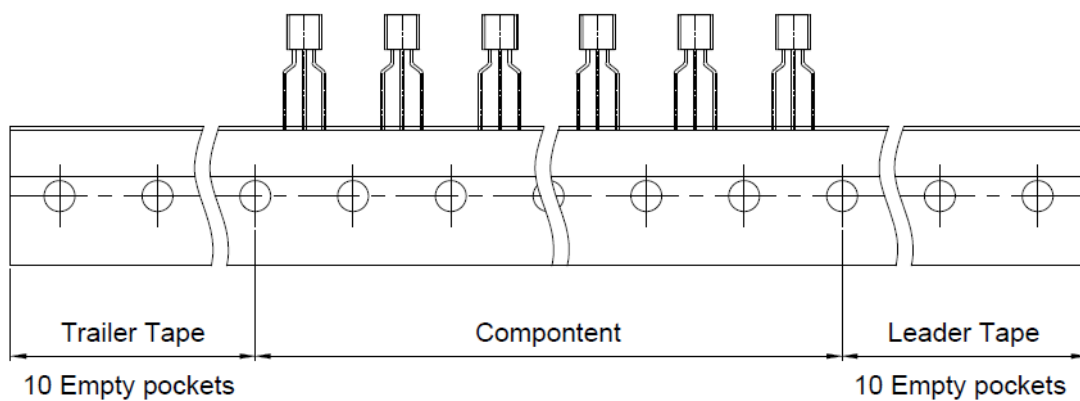


Taping Dimensions

TO-92



Dimensions are in millimeter								
A	A1	T	P	P0	P2	F1	F2	W
4.6	4.6	3.5	12.7	12.7	6.35	2.54	2.54	18.0
W0	W1	W2	H	H0	D0	t1	T2	ΔP
6.0	9.0	1.0Max	19.0	18.0	4.0	0.4	0.2	0



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