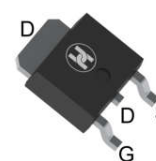


BIPOLAR TRANSISTOR (NPN)

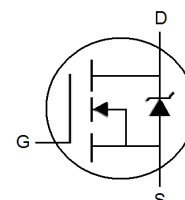
FEATURES

- High DC Current Gain
- Electrically Similar to Popular TIP122
- Built-in a Damper Diode at E-C


TO-252

MECHANICAL DATA

- Case: TO-252
- Case material: Molded Plastic. UL flammability 94V-0
- Weight:0.33grams(approximate)


EQUIVALENT CIRCUIT

MAXIMUM RATINGS ($T_a=25$ unless otherwise noted)

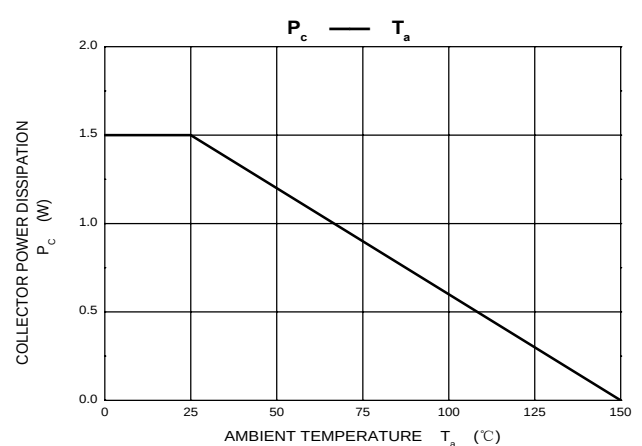
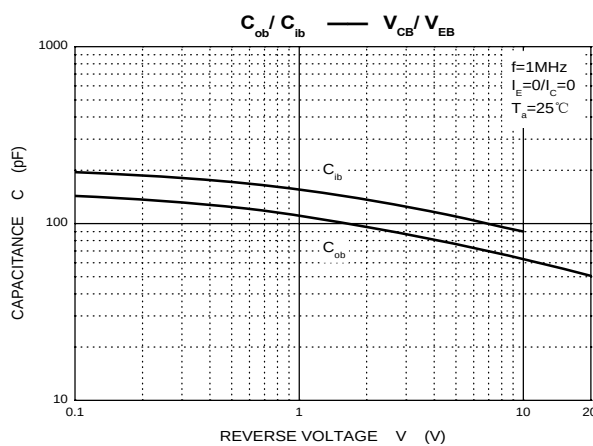
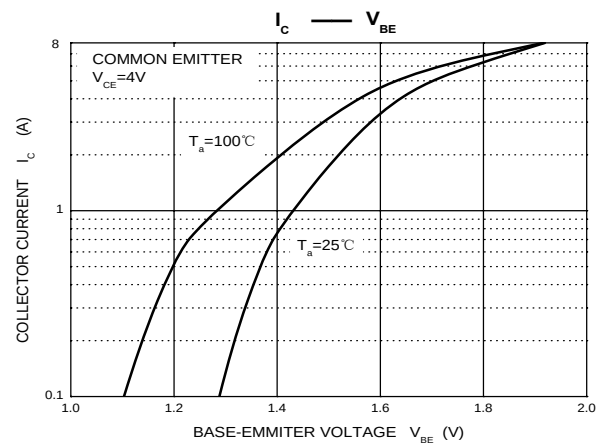
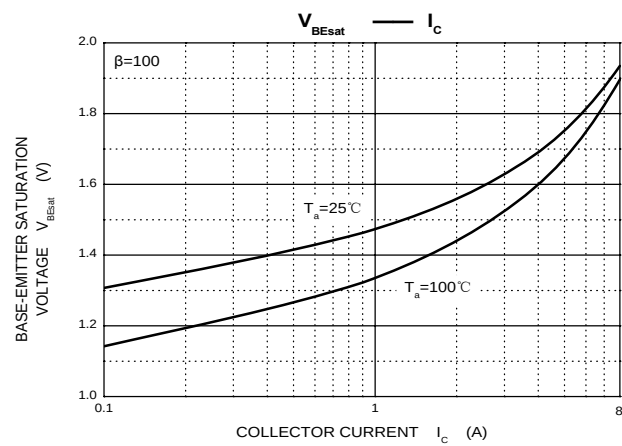
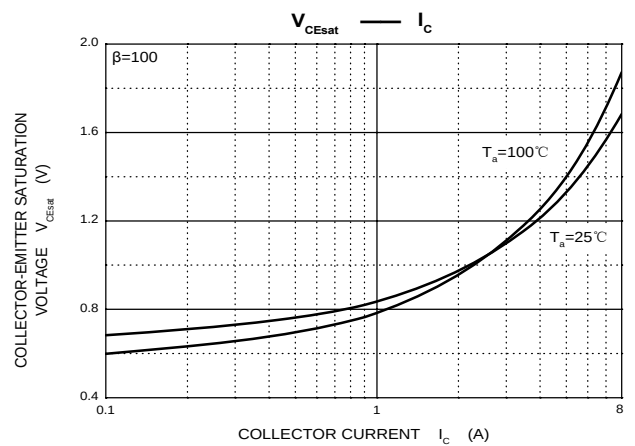
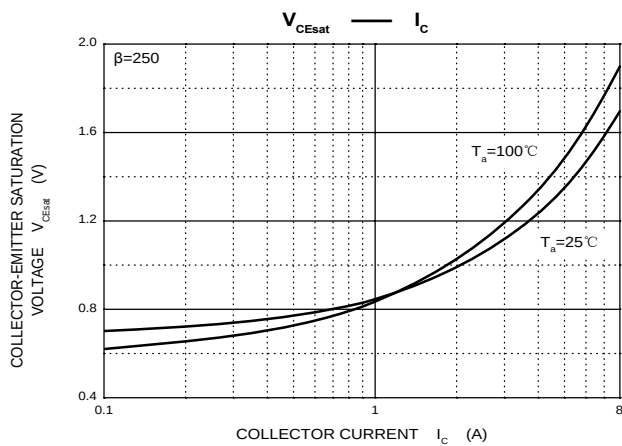
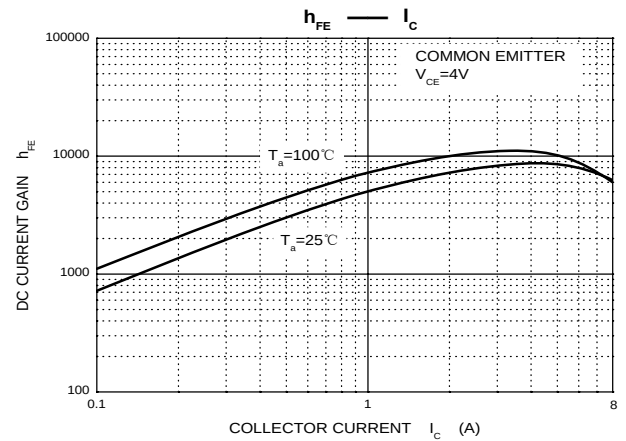
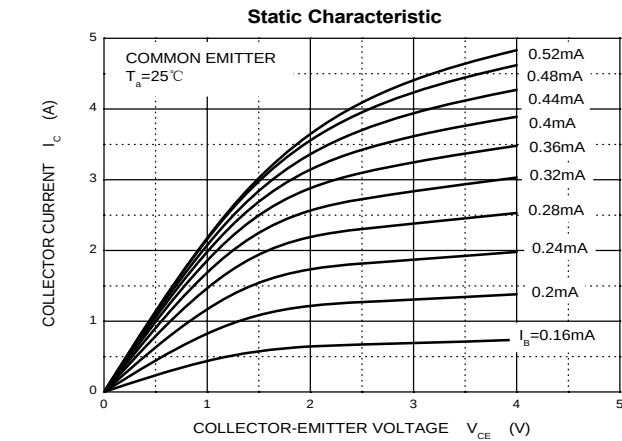
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	8	A
P_C	Collector Dissipation	1.5	W
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55-150	°C

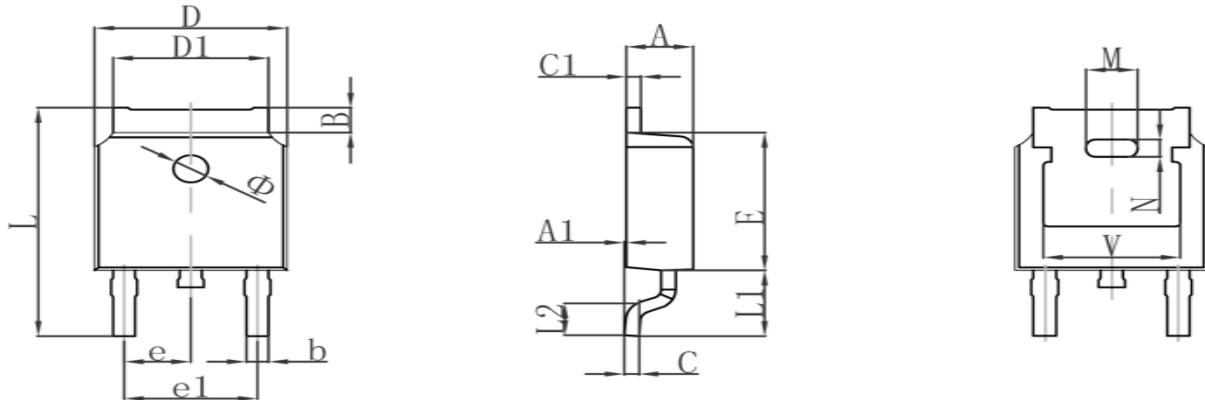
BIPOLAR TRANSISTOR (NPN)
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=1mA, I_E=0$	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=30mA, I_B=0$	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=3mA, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=100V, I_E=0$			10	μA
Collector-emitter cut-off current	I_{CEO}	$V_{CE}=50V, I_E=0$			10	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5V, I_C=0$			2	mA
DC current gain	$h_{FE(2)}$	$V_{CE}=4V, I_C=4A$	1000		12000	
	$h_{FE(3)}$	$V_{CE}=4V, I_C=8A$	100			
Collector-emitter saturation voltage	$V_{CE(sat)(1)}$	$I_C=4A, I_B=16mA$			2	V
	$V_{CE(sat)(2)}$	$I_C=8A, I_B=80mA$			4	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=8A, I_B=80mA$			4.5	V
Base-emitter voltage*	V_{BE}	$V_{CE}=4V, I_C=4A$			2.8	V
Collector output capacitance	C_{ob}	$V_{CB}=10V, I_E=0, f=0.1MHz$			200	pF

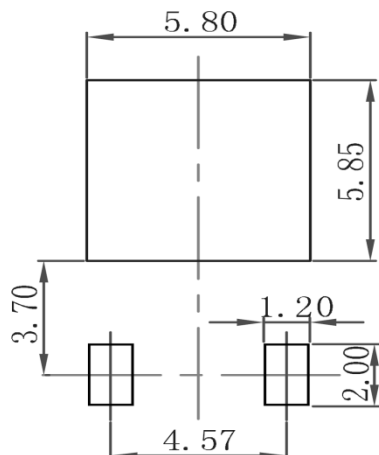
BIPOLAR TRANSISTOR (NPN)

TYPICAL CHARACTERISTICS



BIPOLAR TRANSISTOR (NPN)
TO-252 PACKAGE OUTLINE DIMENSIONS


Symbol	DimensionsIn Millimeters		DimensionsIn Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.380	0.087	0.094
A1	0.000	0.100	0.000	0.004
B	0.800	1.400	0.031	0.055
b	0.710	0.810	0.028	0.032
c	0.460	0.560	0.018	0.022
c1	0.460	0.560	0.018	0.022
D	6.500	6.700	0.256	0.264
D1	5.130	5.460	0.202	0.215
E	6.000	6.200	0.236	0.244
e	2.286TYP		0.090TYP	
e1	4.327	4.727	0.170	0.186
M	1.778REF		0.070REF	
N	0.762REF		0.018REF	
L	9.800	10.400	0.386	0.409
L1	2.9REF		0.114REF	
L2	1.400	1.700	0.055	0.067
V	4.830REF		0.190REF	
Φ	1.100	1.300	0.043	0.051

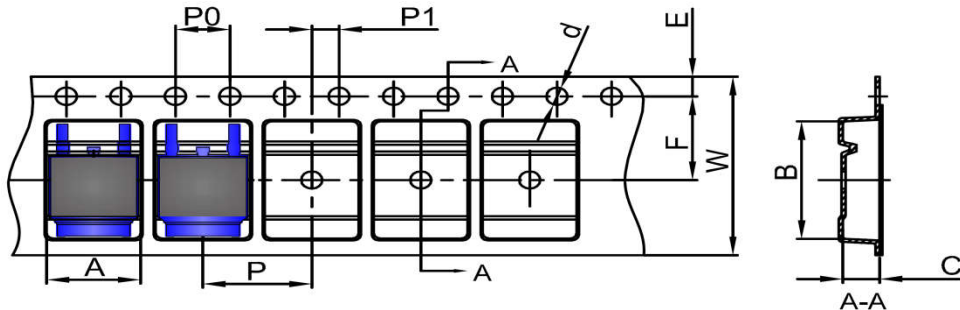
TO-252 SUGGESTED PAD LAYOUT

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)

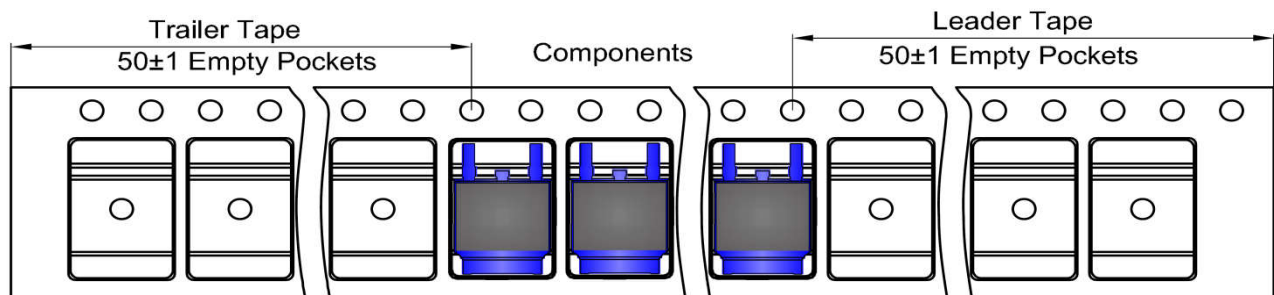
TO-252 TAPE AND REEL

TO-252 Embossed Carrier Tape

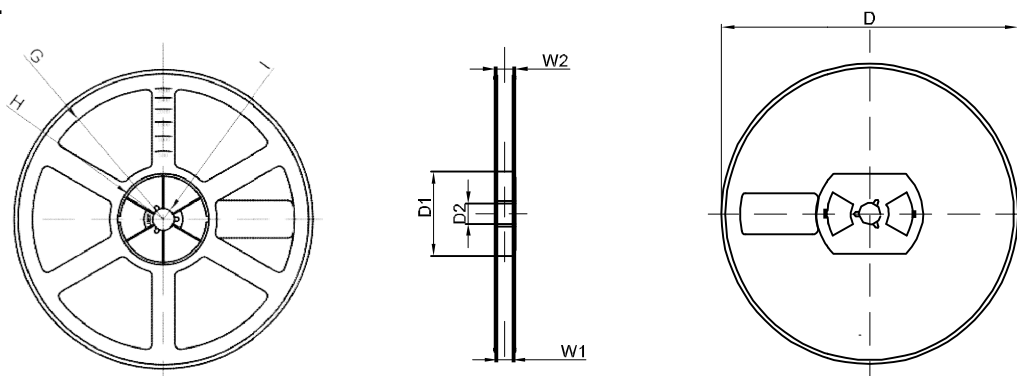


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
TO-252	6.90	10.50	2.70	Ø1.55	1.75	7.50	4.00	8.00	2.00	16.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

TO-252 Tape Leader and Trailer



TO-252 REEL



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
13" DIA	Ø330.00	100.00	Φ21.00	R151.00	R56.00	R6.50	16.40	21.00
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1