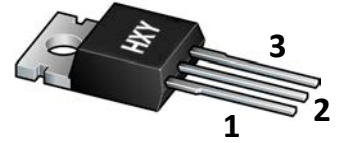




## FEATURES

- Medium Power Complementary Silicon Transistors

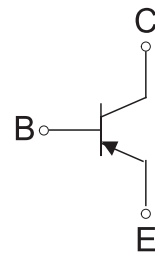
- 1.BASE
- 2.COLLECTOR
- 3.EMITTER



TO-220

## MAXIMUM RATINGS (Ta=25 unless otherwise noted)

Symbol	Parameter	TIP42A	TIP42B	TIP42C	Unit
V <sub>CBO</sub>	Collector-Base Voltage	-60	-80	-100	V
V <sub>CEO</sub>	Collector-Emitter Voltage	-60	-80	-100	V
V <sub>EBO</sub>	Emitter-Base Voltage		-5		V
I <sub>C</sub>	Collector Current -Continuous		-6		A
P <sub>C</sub>	Collector Power Dissipation		2		W
T <sub>J</sub> , T <sub>stg</sub>	Operation Junction and Storage Temperature Range		-55to+150		°C



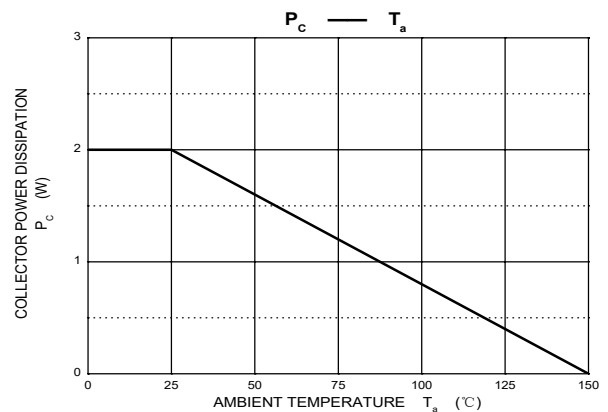
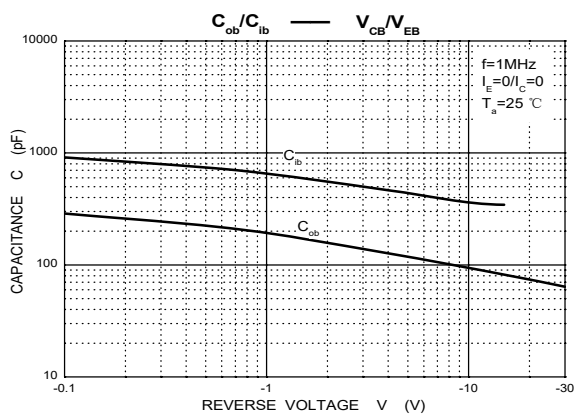
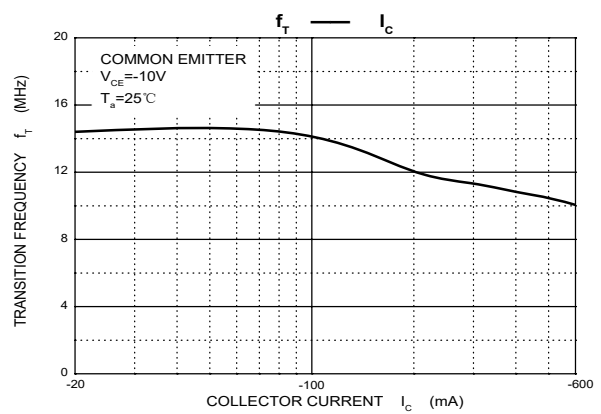
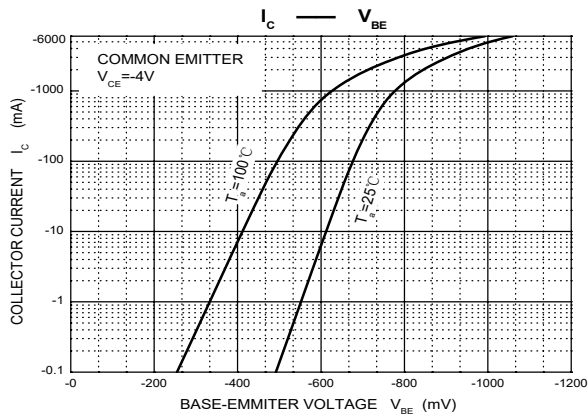
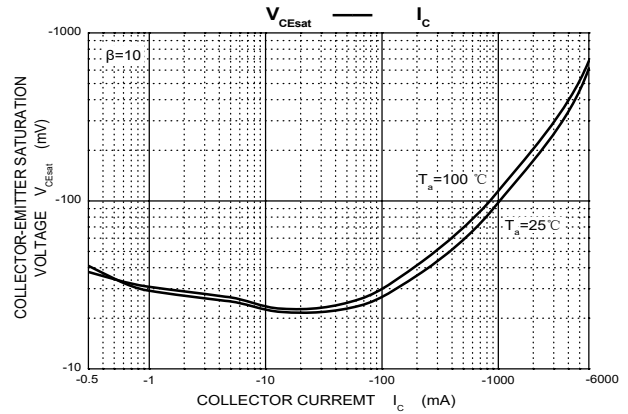
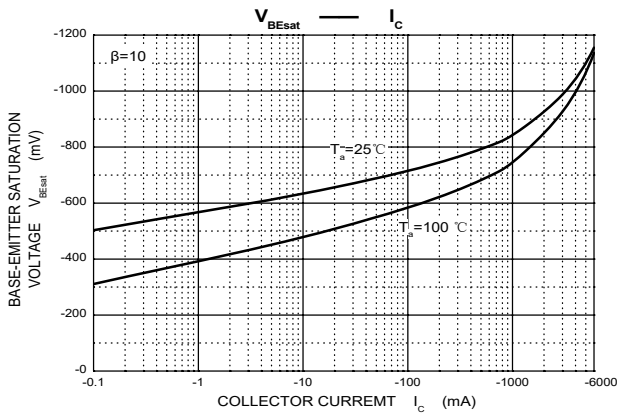
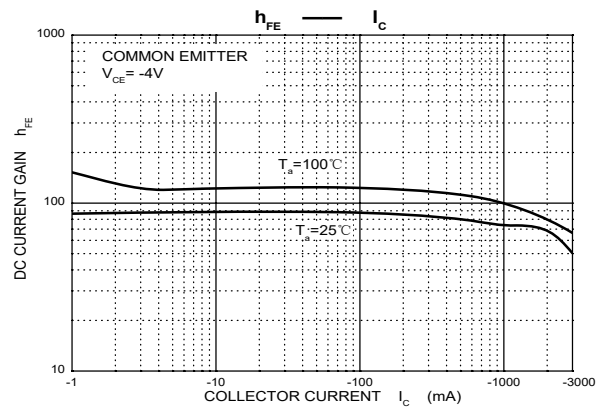
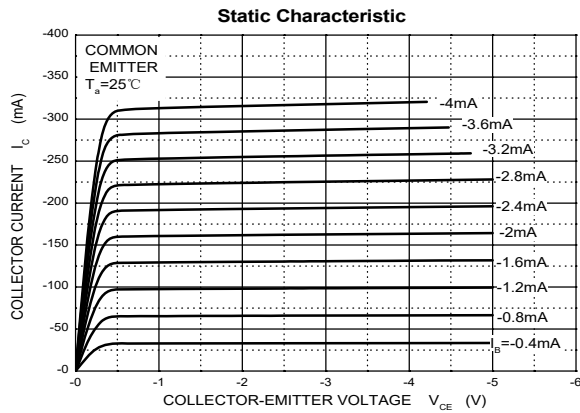
## ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage	TIP42 TIP42A TIP42B TIP42C V <sub>(BR)CBO</sub>	I <sub>C</sub> = -1mA, I <sub>E</sub> = 0	-40 -60 -80 -100		V
Collector-emitter breakdown voltage	TIP42 TIP42A TIP42B TIP42C V <sub>(BR)CEO</sub> *	I <sub>C</sub> = -30mA, I <sub>B</sub> = 0	-40 -60 -80 -100		V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = -1mA, I <sub>C</sub> = 0	-5		V
Collector cut-off current	TIP42 TIP42A TIP42B TIP42C I <sub>CBO</sub>	V <sub>CB</sub> = -40V, I <sub>E</sub> = 0 V <sub>CB</sub> = -60V, I <sub>E</sub> = 0 V <sub>CB</sub> = -80V, I <sub>E</sub> = 0 V <sub>CB</sub> = -100V, I <sub>E</sub> = 0		-0.4	mA
Collector cut-off current	TIP42/42A TIP42B/42C I <sub>CEO</sub>	V <sub>CE</sub> = -30V, I <sub>B</sub> = 0 V <sub>CE</sub> = -60V, I <sub>B</sub> = 0		-0.7	mA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5V, I <sub>C</sub> = 0		-1	mA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -0.3A	30		
	h <sub>FE(2)</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -3A	15	75	
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = -6A, I <sub>B</sub> = -0.6A		-1.5	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -4V, I <sub>C</sub> = -6A		-2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10V, I <sub>C</sub> = -0.5	3		MHz

\* Pulse test



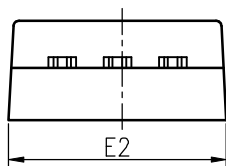
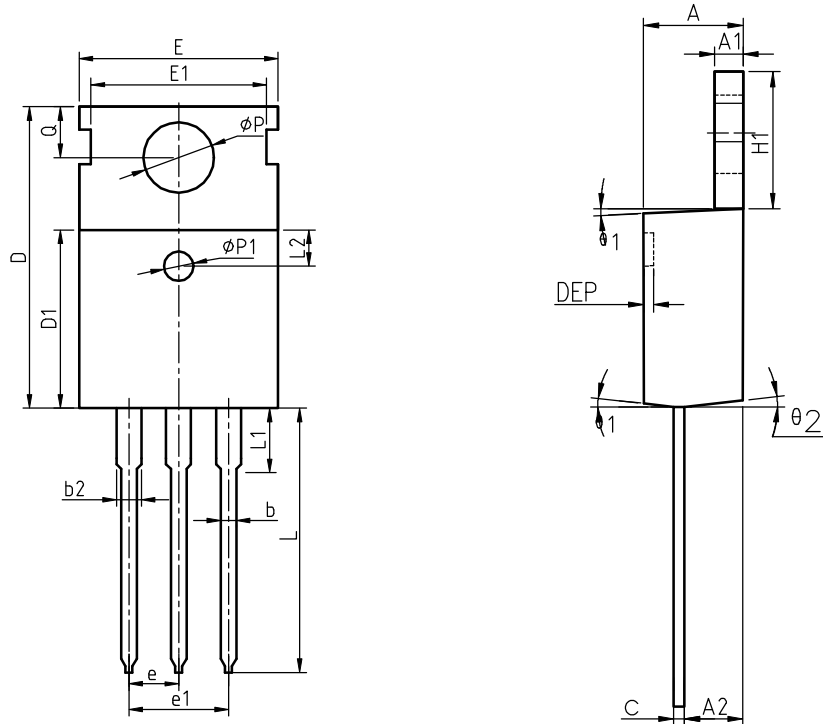
### Typical Characteristics





## Package Information

### TO-220



COMMON DIMENSIONS

SYMBOL	MIN	NOM	MAX	MIN	NOM	MAX
A	4.40	4.57	4.70	0.173	0.180	0.185
A1	1.27	1.30	1.33	0.050	0.051	0.052
A2	2.35	2.40	2.50	0.093	0.094	0.098
b	0.77	0.80	0.90	0.030	0.031	0.035
b2	1.17	1.27	1.36	0.046	0.050	0.054
c	0.48	0.50	0.56	0.019	0.020	0.022
D	15.40	15.60	15.80	0.606	0.614	0.622
D1	9.00	9.10	9.20	0.354	0.358	0.362
DEP	0.05	0.10	0.20	0.002	0.004	0.008
E	9.80	10.00	10.20	0.386	0.394	0.402
E1	-	8.70	-	-	0.343	-
E2	9.80	10.00	10.20	0.386	0.394	0.402
e		2.54	BSC		0.100	BSC
e1		5.08	BSC		0.200	BSC
H1	6.40	6.50	6.60	0.252	0.256	0.260
L	12.75	13.50	13.65	0.502	0.531	0.537
L1	-	3.10	3.30	-	0.122	0.130
L2		2.50	REF		0.098	REF
P	3.50	3.60	3.63	0.138	0.142	0.143
P1	3.50	3.60	3.63	0.138	0.142	0.143
Q	2.73	2.80	2.87	0.107	0.110	0.113
theta 1	5°	7°	9°	5°	7°	9°
theta 2	1°	3°	5°	1°	3°	5°
theta 3	1°	3°	5°	1°	3°	5°



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