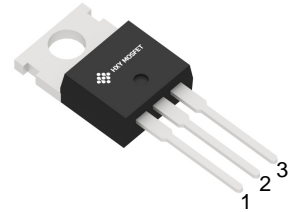




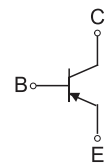
## Features

- Medium Power Complementary Silicon Transistors



1.BASE  
2.COLLECTOR  
3.EMITTER

**TO-220  
(ITO-220AB-3)**



## Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	TIP42A	TIP42B	TIP42C	Unit
$V_{CBO}$	Collector-Base Voltage	-60	-80	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-60	-80	-100	V
$V_{EBO}$	Emitter-Base Voltage	-5			V
$I_C$	Collector Current -Continuous	-3			A
$P_C$	Collector Power Dissipation	2			W
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	62.5			°C/W
$T_J, T_{stg}$	Operation Junction and Storage Temperature Range	-55~+150			°C

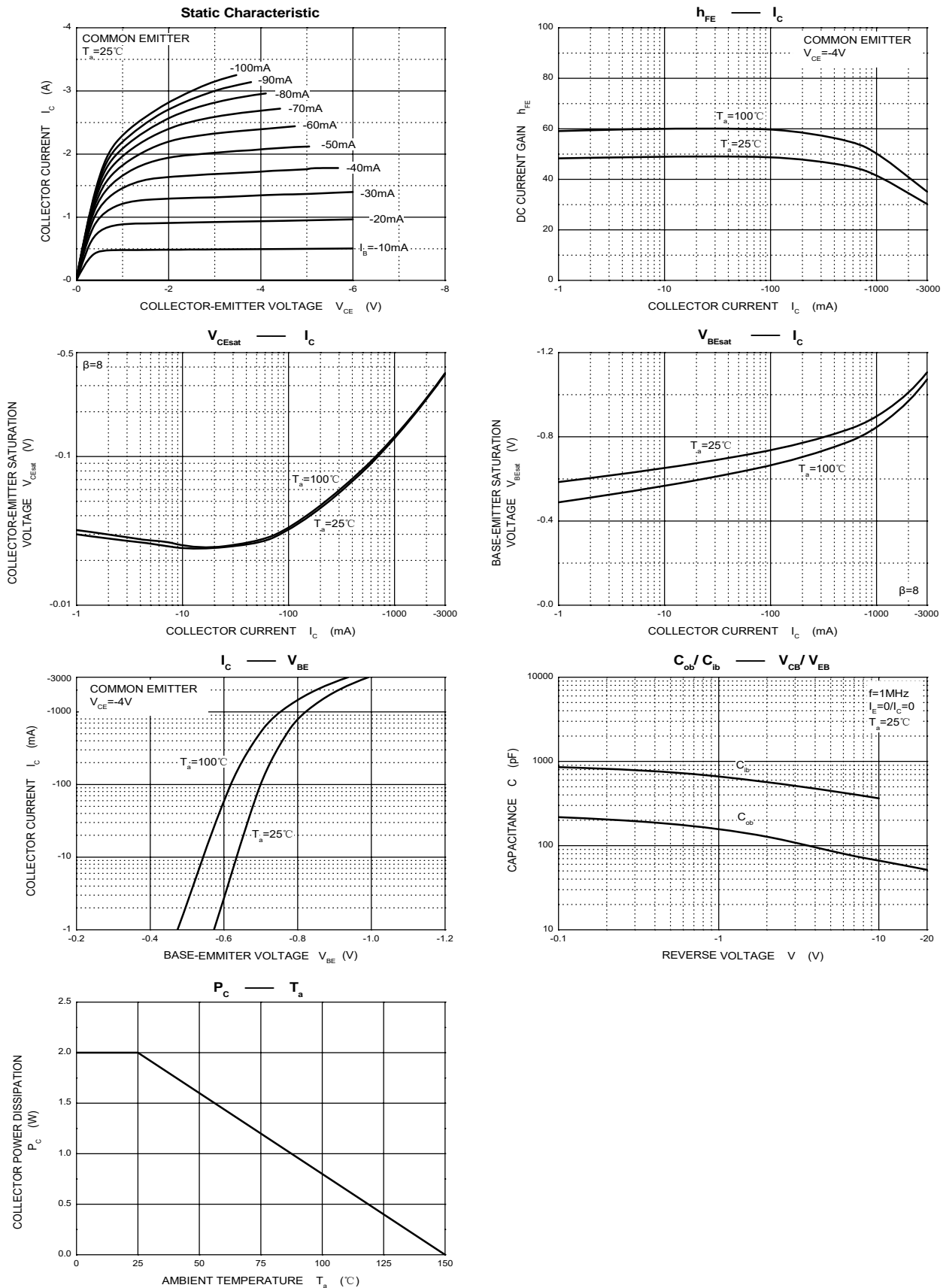
## Electrical Characteristics (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Collector-base breakdown voltage TIP42 TIP42A TIP42B TIP42C	$V_{(BR)CBO}$	$I_C = -1mA, I_E = 0$	-40 -60 -80 -100		V
Collector-emitter breakdown voltage TIP42 TIP42A TIP42B TIP42C	$V_{(BR)CEO}^*$	$I_C = -30mA, I_B = 0$	-40 -60 -80 -100		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = -1mA, I_C = 0$	-5		V
Collector cut-off current TIP42 TIP42A TIP42B TIP42C	$I_{CBO}$	$V_{CB} = -40V, I_E = 0$ $V_{CB} = -60V, I_E = 0$ $V_{CB} = -80V, I_E = 0$ $V_{CB} = -100V, I_E = 0$		-0.2	mA
Collector cut-off current TIP42/42A TIP42B/42C	$I_{CEO}$	$V_{CE} = -30V, I_B = 0$ $V_{CE} = -60V, I_B = 0$		-0.3	mA
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$		-1	mA
DC current gain	$h_{FE(1)}$	$V_{CE} = -4V, I_C = -1A$	25		
	$h_{FE(2)}$	$V_{CE} = -4V, I_C = -3A$	15	75	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -3A, I_B = -0.375A$		-1.2	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -4V, I_C = -3A$		-1.8	V
Transition frequency	$f_T$	$V_{CE} = -10V, I_C = -0.5$	3		MHz

\* Pulse test

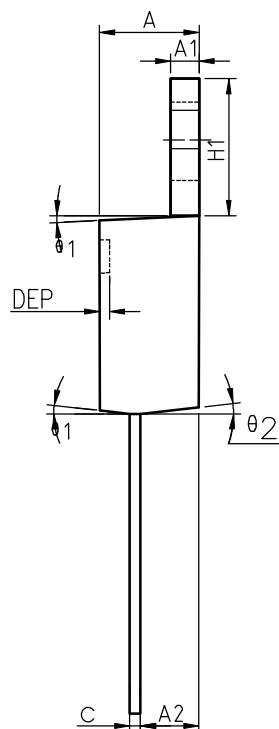
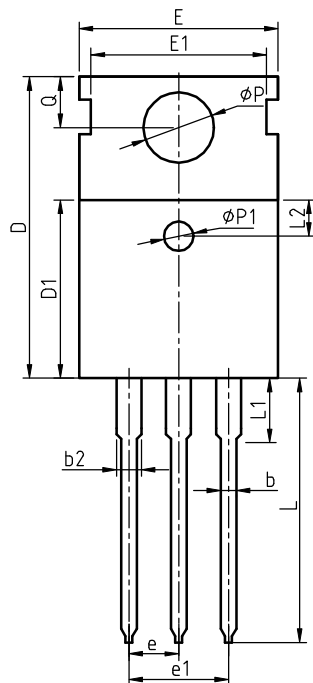


## Typical Characteristics



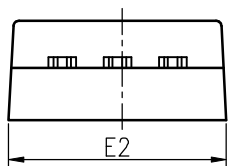


Package Information  
TO-220(ITO-220AB-3)



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
θ 1	5°	7°	9°	5°	7°	9°
θ 2	1°	3°	5°	1°	3°	5°
θ 3	1°	3°	5°	1°	3°	5°





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