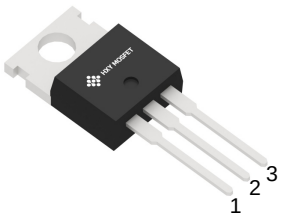
BU406

NPN Plastic-Encapsulate Transistors

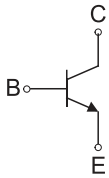
Features

- High Voltage
- Fast Switching Speed: t_f = 750 ns (max)
- Low Saturation Voltage: $V_{CE(sat)}$ = 1 V (max) @ 5 A
- Pb−Free Packages are Available*



1.BASE
2.COLLECTOR
3.EMITTER

TO-220C



Maxmim Ratings (Ta=25℃unless otherwise noted)

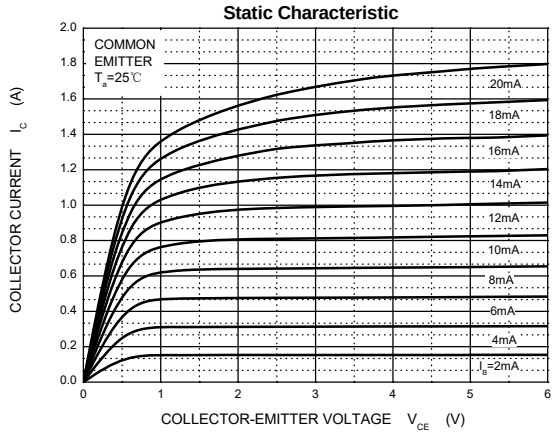
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	400	V
V_{CEO}	Collector-Emitter Voltage	200	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	7	A
P_C	Collector Power Dissipation	2	W
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	62.5	℃/W
T_j,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

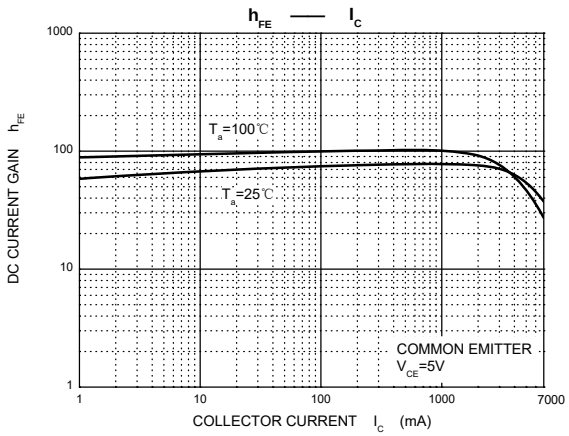
Electrcal Charcteristics (Ta=25℃unless otherwise specified)

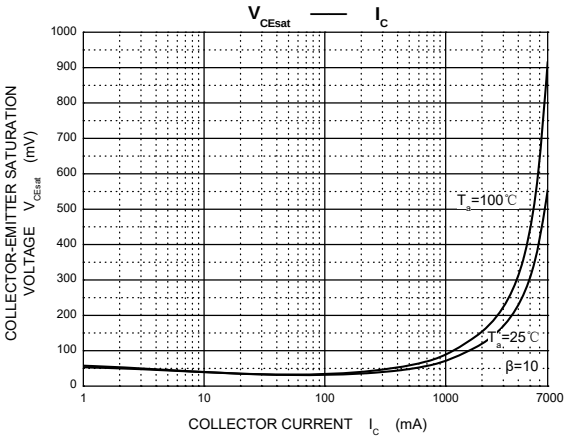
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltag	$V_{(BR)CBO}$	I_C=100uA, I_E=0	400			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C=100mA,I_B=0	200			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100uA,I_C=0	6			V
Collector cut-off current	I_{CES}	V_{CB}=400V,I_E=0			5	mA
Collector cut-off current	I_{CES}	V_{CB}=250V,I_E=0			1	mA
Collector cut-off current	I_{CBO}	V_{CB}=300V,I_E=0			5	μA
Emitter cut-off current	I_{EBO}	V_{EB}=6V,I_C=0			1	mA
DC current gain	h_{FE}	V_{CE}=5V, I_C=1A	50		100	
Collector-emitter saturation voltage	$V_{CE(sat)}$*	I_C=5A,I_B=500mA			1	V
Base-emitter saturation voltage	$V_{BE(sat)}$*	I_C=5A,I_B=500mA			1.2	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0, f=1MHz		80		pF
Transition frequency	f_T	V_{CE}=5V,I_C=0.2A,f=10MHz	10			MHz

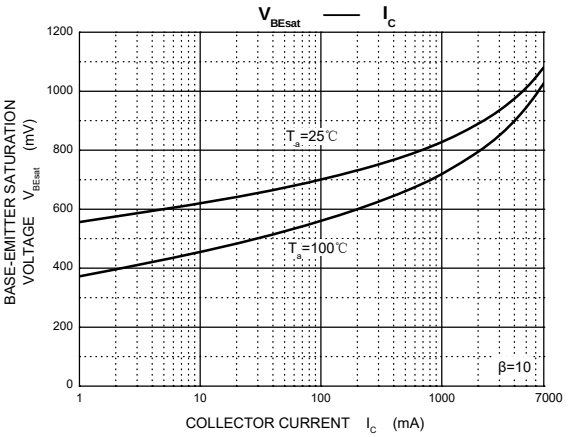
*Pulse test: pulse width ≤300μs, duty cycle≤ 2.0%.

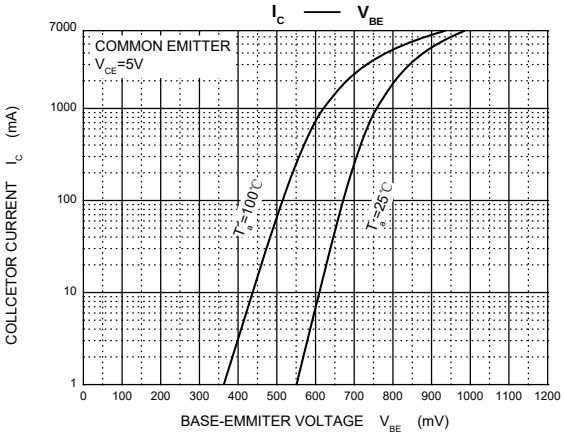
Typical Characteristics

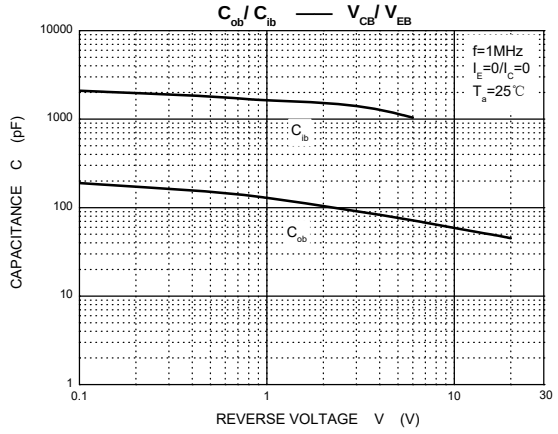


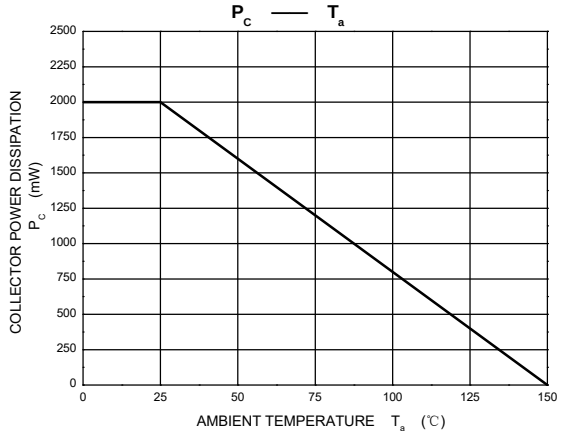




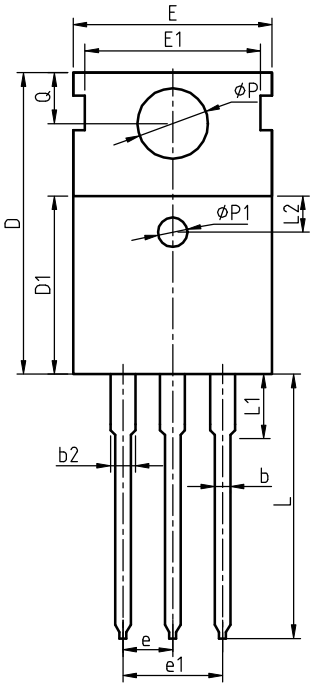


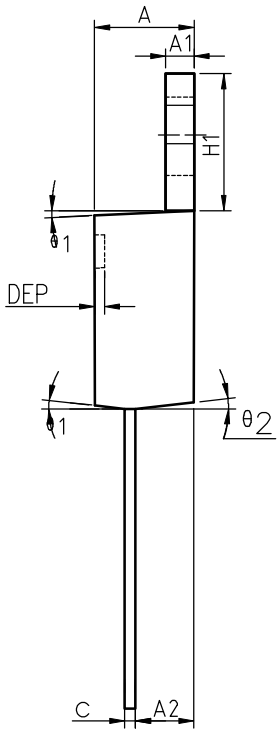


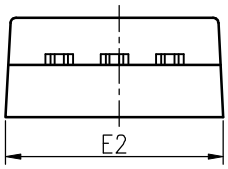




Package Information
TO-220C







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
θ1	5°	7°	9°	5°	7°	9°
θ2	1°	3°	5°	1°	3°	5°
θ3	1°	3°	5°	1°	3°	5°

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