

NPN Power Transistor

FEATURES

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

PINNING

- ◆ BASE
- ◆ 4. COLLECTOR
- ◆ EMITTER



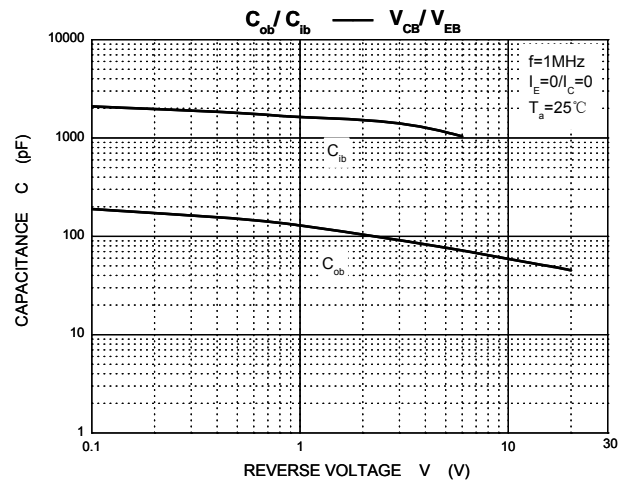
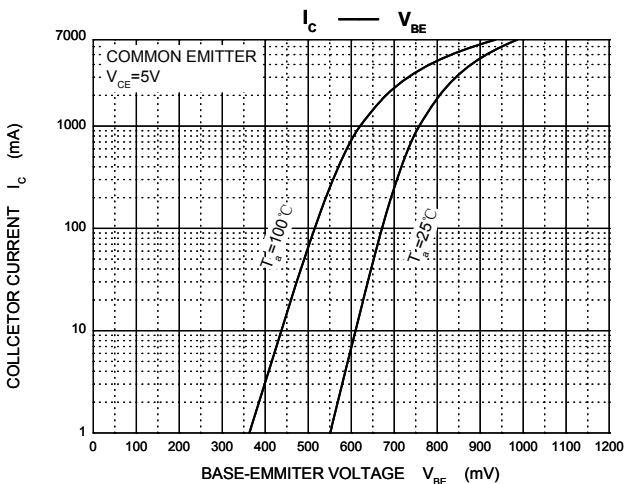
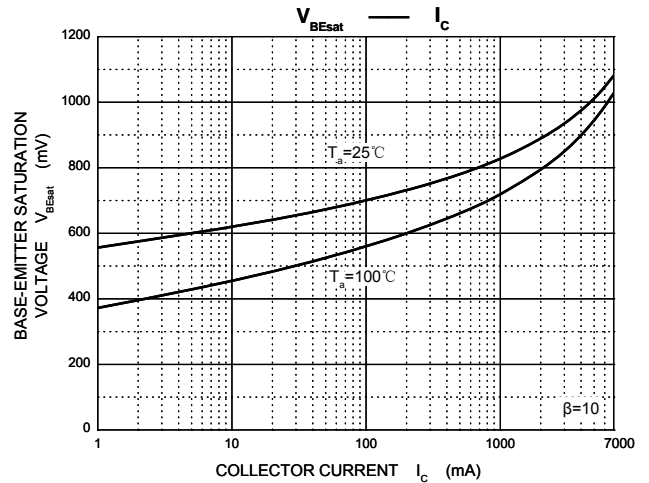
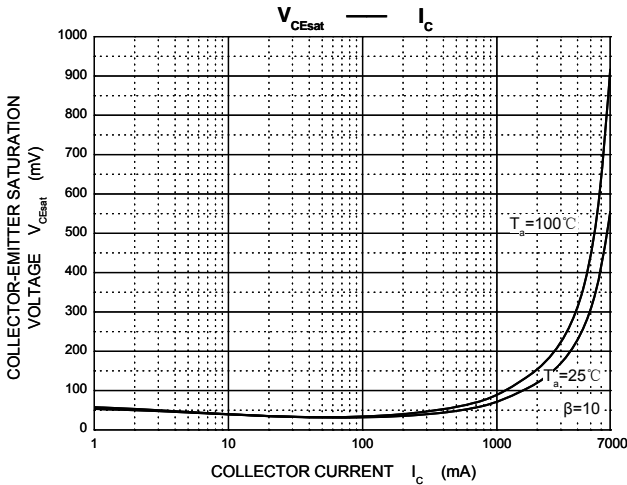
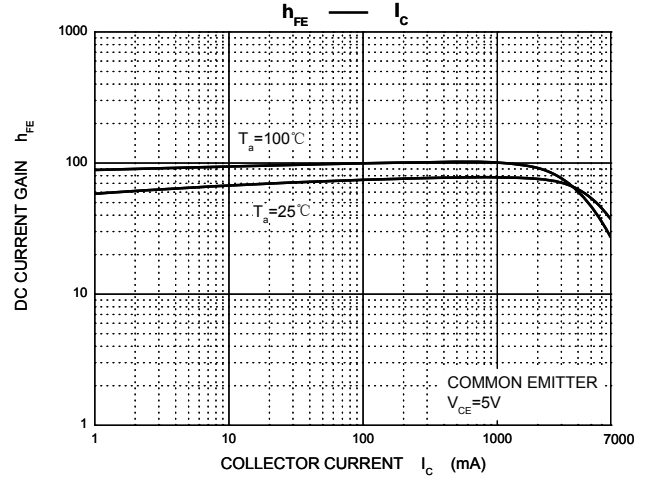
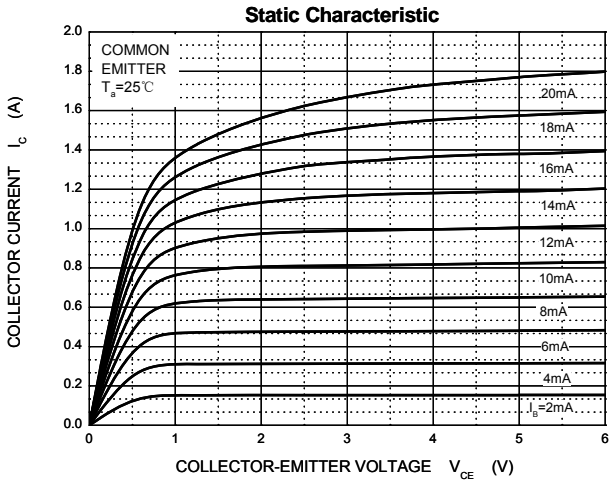
Maximum Ratings (Per Leg) at $T_a=25^\circ\text{C}$ unless otherwise specified

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	$^\circ\text{C/W}$
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55~+150	$^\circ\text{C}$

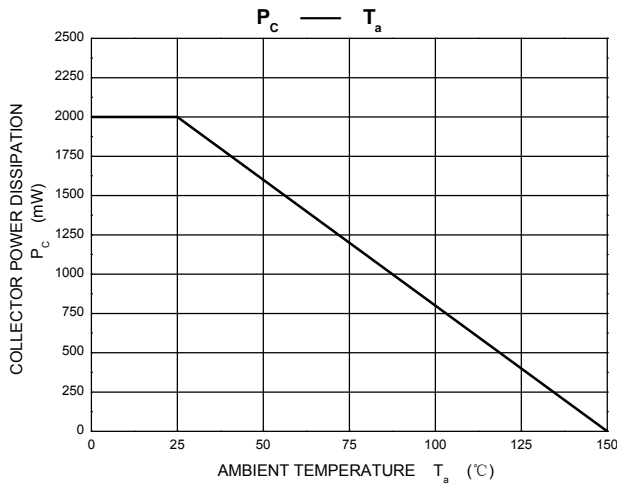
Electrical Characteristics (Per Leg) unless otherwise specified

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

Typical Characteristics

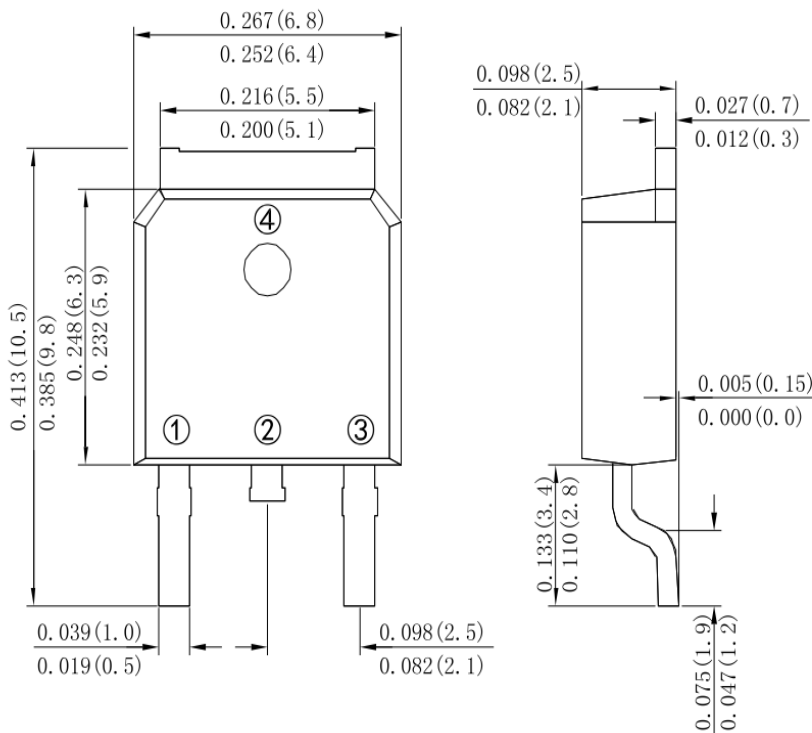


Typical Characteristics



Package Information

TO-252



Product Specification Classification

Part Number	Package	Marking	Pack
BU406	TO-252	YFW BU406 XXXXX	2500PCS/Tape