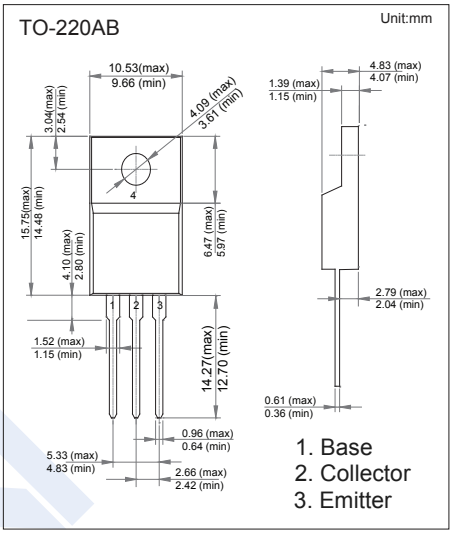
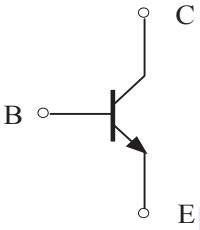
NPN Transistor

BU406 A8



■ Features

- Excellent current characteristics
- Small reverse leakage current
- Excellent high temperature characteristics
- Suitable switching speed
- High reliability



■ Absolute Maximum Ratings Ta = 25℃

Parameter		Symbol	Rating	Unit
Collector - Base Voltage		V_{CBO}	250	V
Collector - Emitter Voltage		V_{CEO}	100	
Emitter - Base Voltage		V_{EBO}	7	
Collector Current - Continuous		I_C	7	A
Peak Pulse Collector Current (tp＜5ms)		I_{CM}	15	
Base Current - Continuous		I_B	4	
Peak Pulse Base Current (tp＜5ms)		I_{BM}	7	
Power Dissipation	Ta=25℃	P_D	2	W
	Tc=25℃		60	
Thermal Resistance.Junction- to-Case		R_{thJC}	2.1	℃/W
Thermal Resistance.Junction- to-Ambient		R_{thJA}	62.5	
Junction Temperature		T_J	150	℃
Storage Temperature Range		T_{stg}	-55 to 150	

NPN Transistor

BU406 A8

■ Electrical Characteristics (T_a = 25℃ unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA， I_E= 0	250			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA， I_B= 0	100			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μA， I_C= 0	7			
Collector-base cut-off current	I_{CBO}	V_{CB}= 250 V , I_E= 0			0.1	mA
Collector-emitter cut-off current	I_{CEO}	V_{CE}= 100 V , I_B= 0			0.1	
Emitter cut-off current	I_{EBO}	V_{EB}= 7 V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$ *	I_C=5 A, I_B=0.5 A			1	V
Base - emitter saturation voltage	$V_{BE(sat)}$ *	I_C=5 A, I_B=0.5 A			1.5	
DC current gain	h_{FE} *	V_{CE}= 5 V, I_C= 2 A	30			
The h_{FE} ratio of small to large current	h_{FE1}/ h_{FE2}	h_{FE1}:V_{CE}=5V, I_C=5mA h_{FE2}:V_{CE}=5V, I_C=2A	0.75			
Storage time	t_s	UI9600，I_C=0.5A	2			μs
Rise time	t_r				1	
Fall time	t_f				1	
Transition frequency	f_T	V_{CE}=10V, I_C=0.5A, f=1MHz	10			MHz

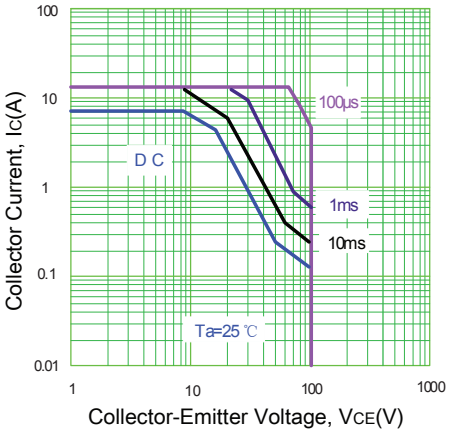
* Pulse test, Pulse width tp ⩽300μs, duty cycle δ⩽2%.

NPN Transistor

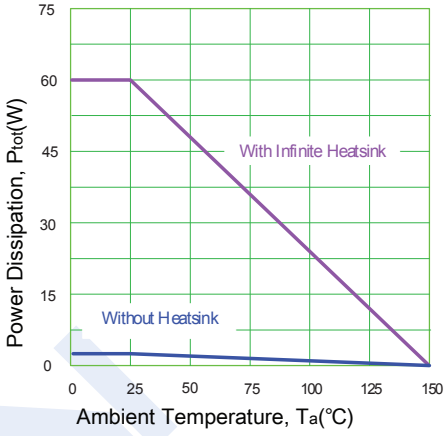
BU406 A8

■ Typical Characterisitics

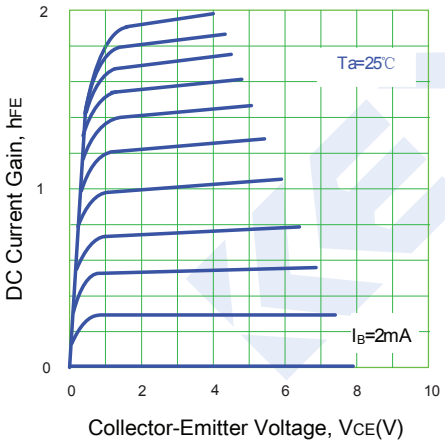
Safe Operating Area (single pulse)



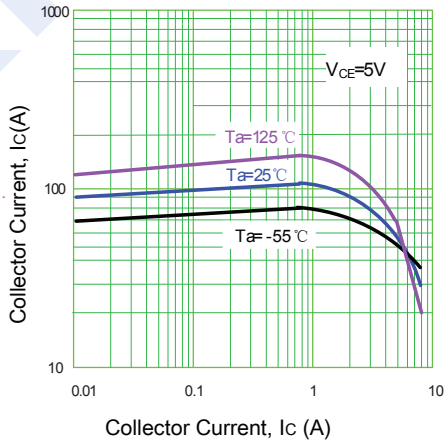
Ptot - Ta Relation Curve



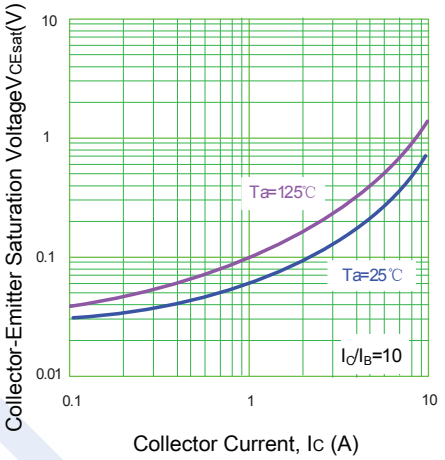
IC - VCE Characteristic (Typ.)



hFE - IC Temperature Characteristic (Typ.)



VCEsat - IC Temperature Characteristic (Typ.)



VBEsat - IC Temperature Characteristic (Typ.)