

NPN General Purpose Transistor

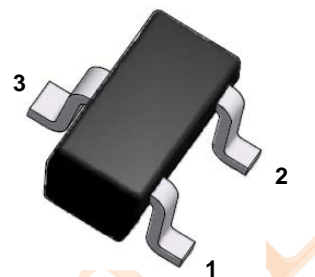
VC817-16B/VC817-25B/VC817-40B

SOT-23 NPN Transistor

FEATURE

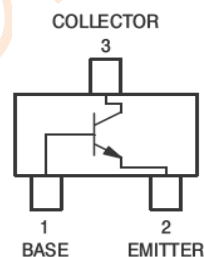
- For general AF applications
- High collector current
- High current gain
- Low collector-emitter saturation voltage
- Complementary types: VC807 (PNP)

Green Product



SOT-23

Electrical Symbol:



MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	50	V
V_{CEO}	Collector-Emitter Voltage	45	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	0.5	A
P_C	Collector Power Dissipation	0.3	W
T_j	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

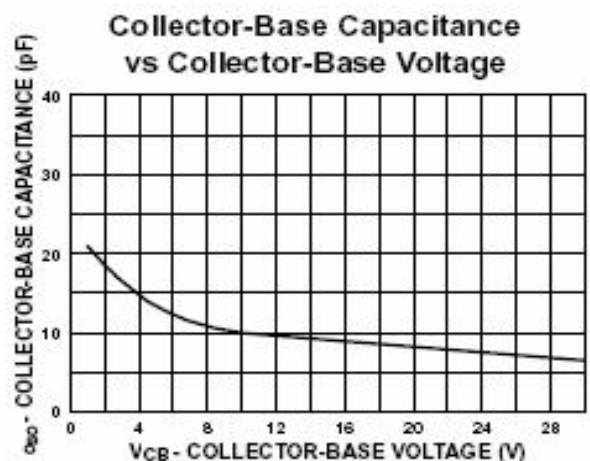
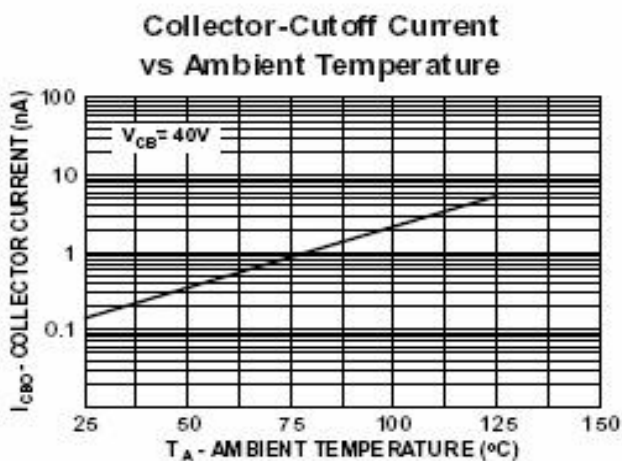
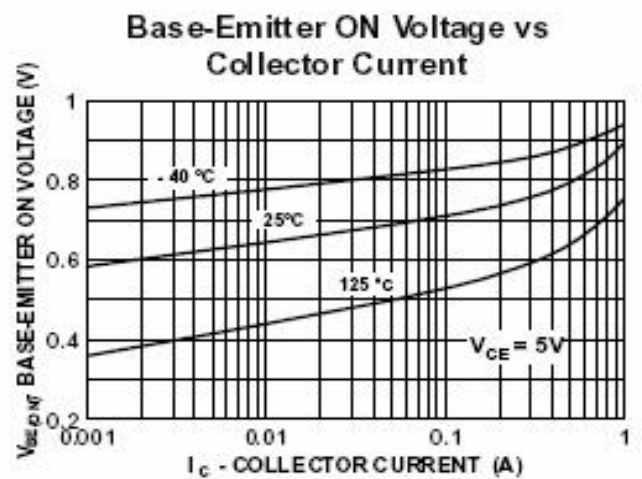
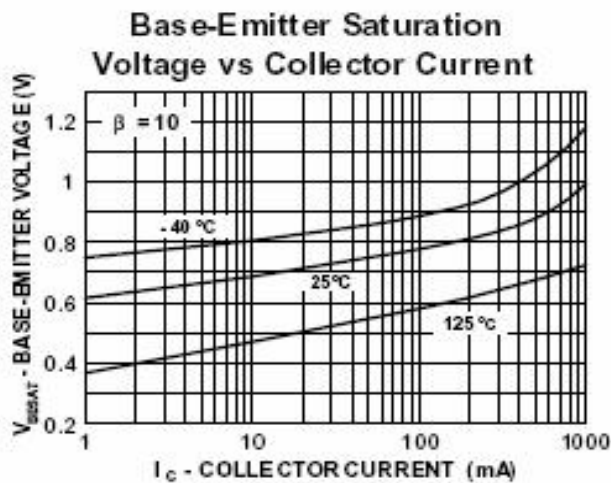
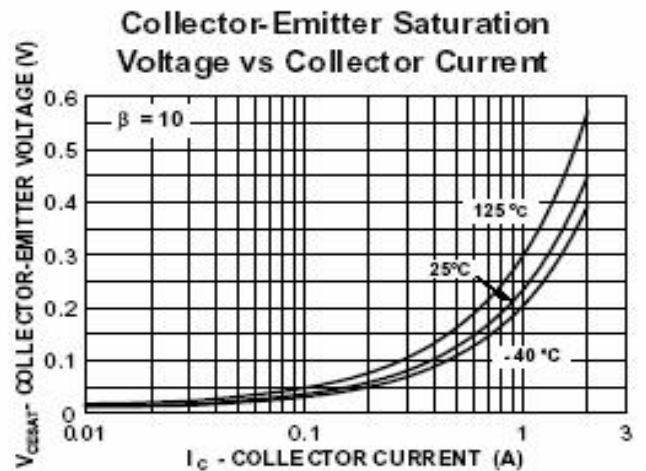
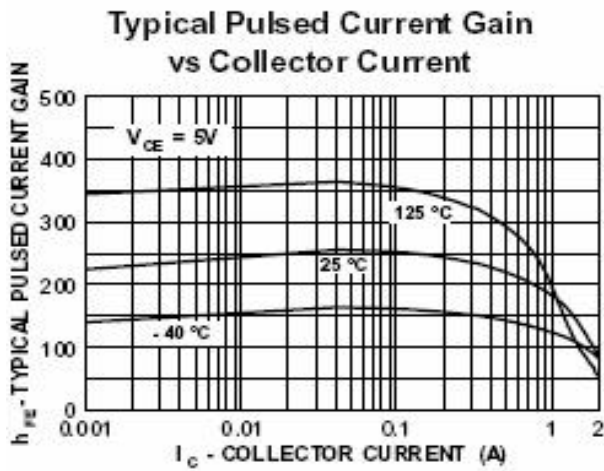
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V_{CBO}	$I_C=10\mu\text{A}, I_E=0$	50		V
Collector-emitter breakdown voltage	V_{CEO}	$I_C=10\text{mA}, I_B=0$	45		V
Emitter-base breakdown voltage	V_{EBO}	$I_E=1\mu\text{A}, I_C=0$	5		V
Collector cut-off current	I_{CBO}	$V_{CB}=45\text{V}, I_E=0$		0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	100	600	
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=500\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}, I_B=50\text{mA}$		1.2	V
Base-emitter voltage	V_{BE}	$V_{CE}=1\text{V}, I_C=500\text{mA}$		1.2	V
Collector capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		10	pF
Transition frequency	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		MHz

CLASSIFICATION OF $h_{FE(1)}$

Rank	VC817-16B	VC817-25B	VC817-40B
Range	100-250	160-400	250-600
Marking	6A	6B	6C

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Typical Characteristics

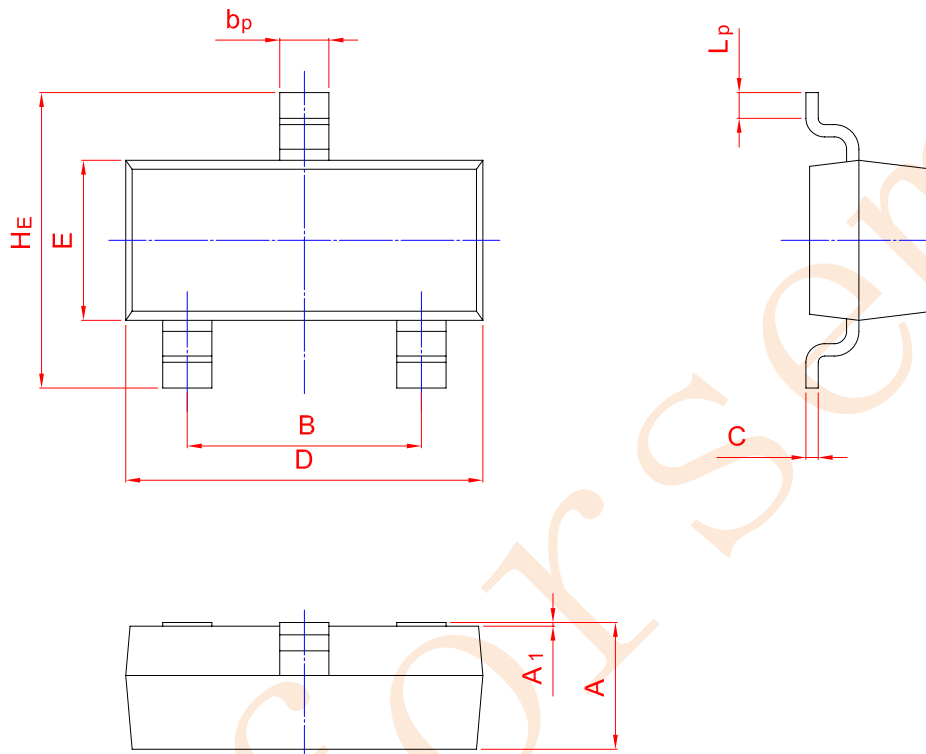
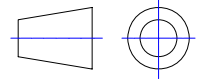


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PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



UNIT	A	B	b _p	C	D	E	H _E	A ₁	L _p
mm	1.40	2.04	0.50	0.19	3.10	1.65	3.00	0.100	0.50
	0.95	1.78	0.35	0.08	2.70	1.20	2.20	0.013	0.20

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