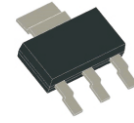


ABCP56/56-16-HF (NPN)

RoHS Device
Halogen Free



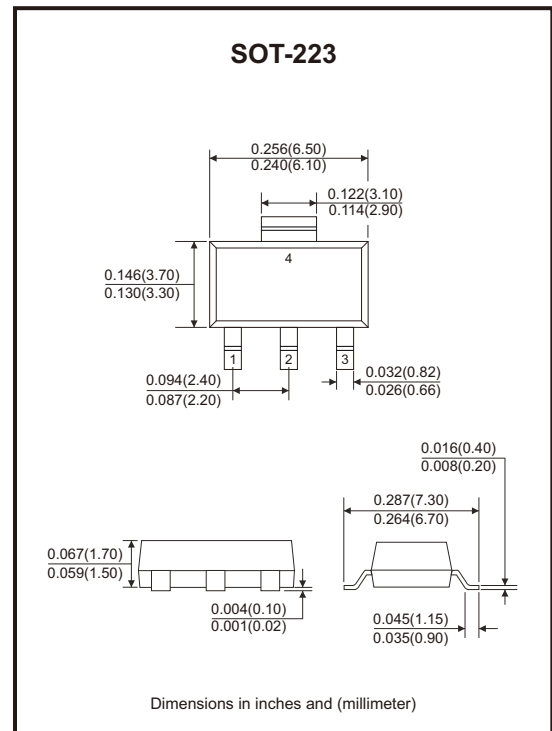
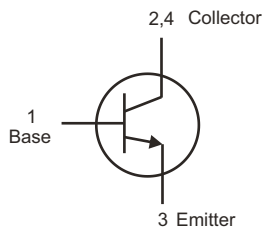
Features

- High collector current.
- Low collector-emitter saturation voltage.
- AEC-Q101 Qualified.

Mechanical data

- Case: SOT-223, molded plastic.
- Molding compound: UL flammability classification rating 94V-0.
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, method 208.

Circuit Diagram



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

Parameter	Symbol	Value	Units
Collector-base voltage	V _{CBO}	100	V
Collector-emitter voltage	V _{CEO}	80	V
Emitter-base voltage	V _{EBO}	5	V
Collector current-continuous	I _C	1	A
Peak collector current	I _{CM}	1.5	A
Base current	I _B	0.1	A
Peak base current	I _{BM}	0.2	A
Power dissipation	P _D	1.5	W
Thermal resistance, junction to ambient	R _{θJA}	83.3	°C/W
Junction temperature	T _J	150	°C
Junction and storage temperature	T _{STG}	-55 to +150	°C

Electrical Characteristics (at $T_a=25^\circ\text{C}$ unless otherwise noted)

Parameter	Conditions	Symbol	Min	Typ	Max	Units
Collector cut-off current	$V_{CB} = 30\text{V}, I_E = 0$	I_{CBO}			100	nA
Emitter cut-off current	$I_C = 0, V_{EB} = 5\text{V}$	I_{EBO}			100	nA
DC current gain	$V_{CE} = 2\text{V}, I_C = 150\text{mA}$	ABCP56-HF h_{FE}	40		250	
		ABCP56-16-HF h_{FE}	100		250	
Collector-emitter saturation voltage	$I_C = 0.5\text{A}, I_B = 50\text{mA}$	$V_{CE(sat)}$			0.5	V
Base-emitter voltage	$I_C = 0.5\text{A}, V_{CE} = 2\text{V}$	V_{BE}			1	V
Transition frequency	$V_{CE} = 10\text{V}, I_C = 50\text{mA}, f = 100\text{MHz}$	f_T	100			MHz

Typical Rating and Characteristic Curves (ABCP56/56-16-HF)

Fig.1 - Static Characteristic

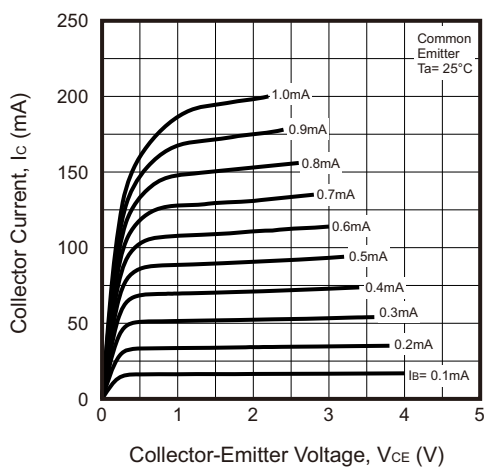


Fig.2 - h_{FE} — I_C

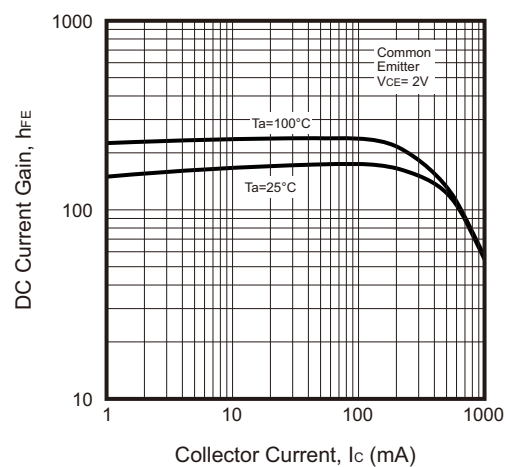


Fig.3 - $V_{CE(sat)}$ — I_C

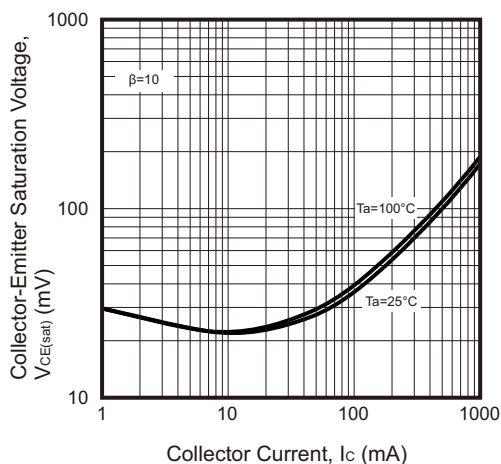
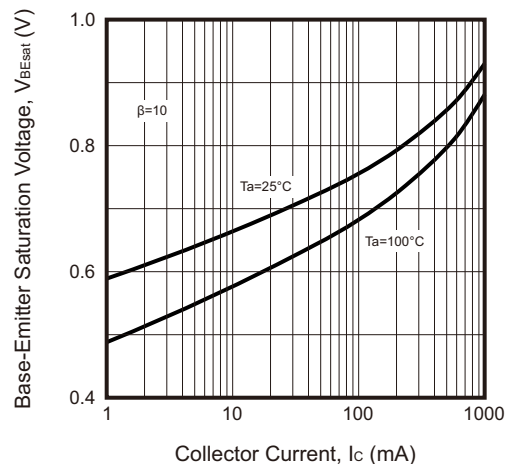


Fig.4 - $V_{BE(sat)}$ — I_C



Typical Rating and Characteristic Curves (ABCP56/56-16-HF)

Fig.5 - I_C — V_{BE}

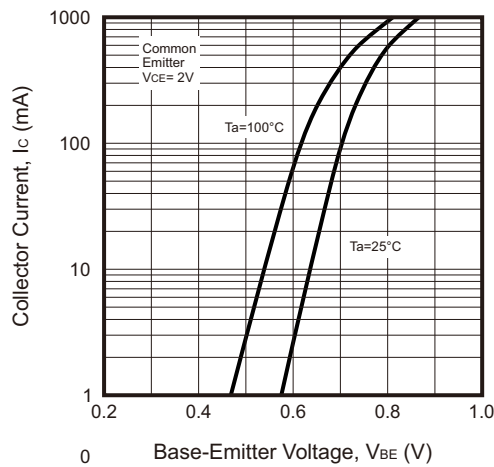


Fig.6 - C_{ob}/C_{ib} — V_{CB}/V_{EB}

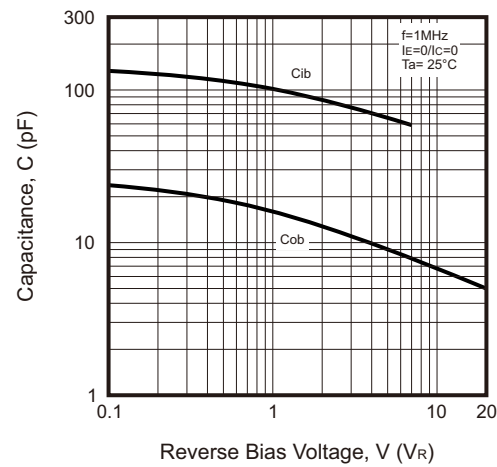


Fig.7 - f_T — I_C

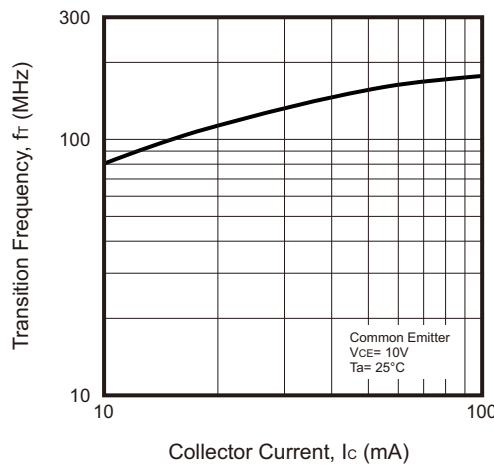
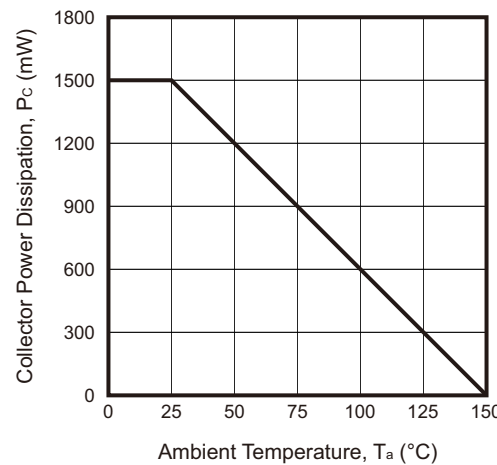
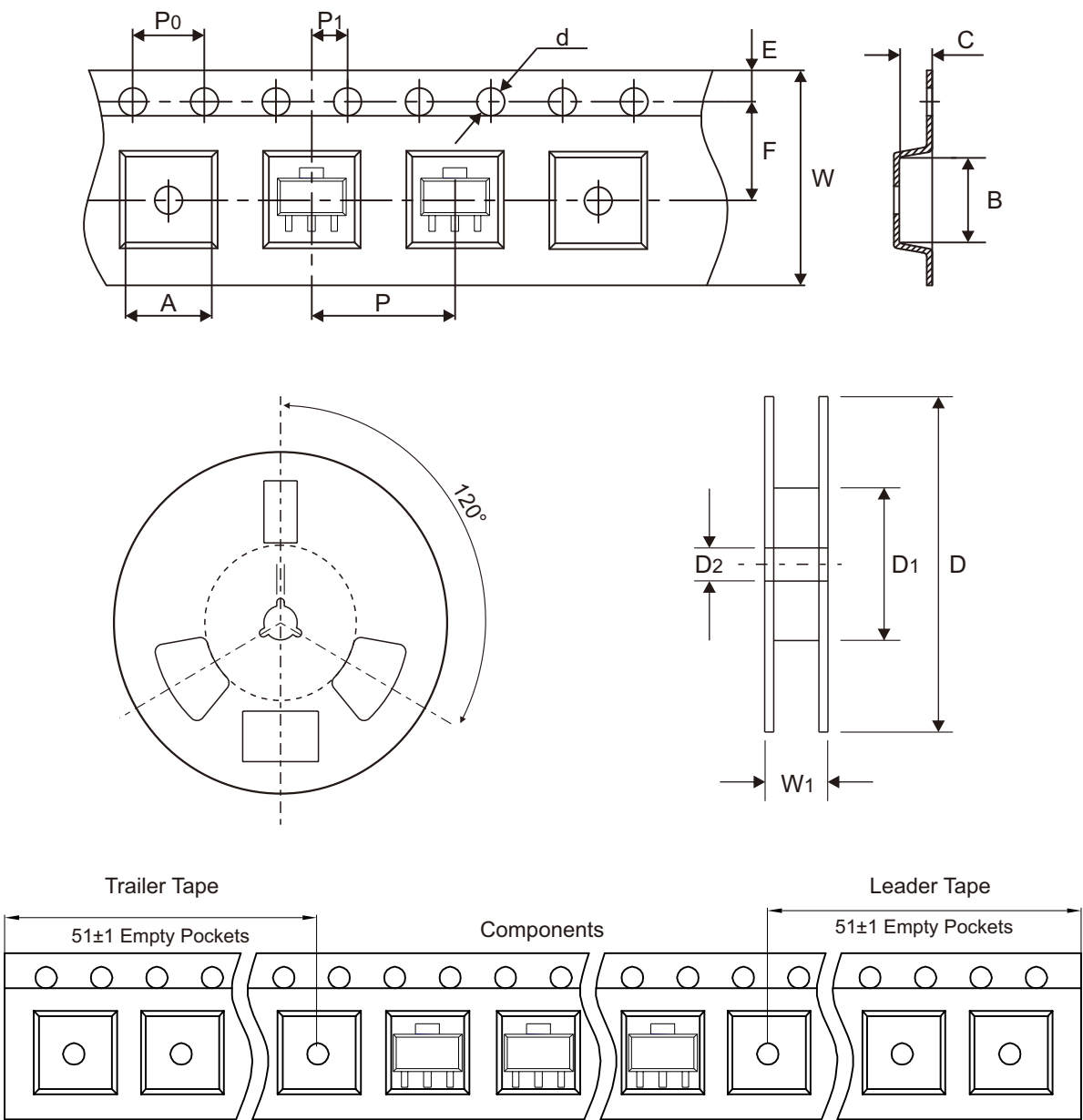


Fig.8 - P_C — T_a



Reel Taping Specification

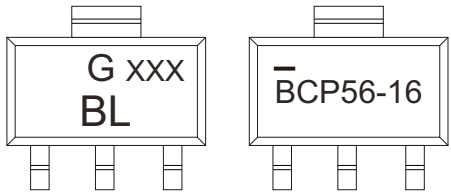


SOT-223	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.765 ± 0.10	7.335 ± 0.10	1.88 ± 0.10	$1.50 + 0.10 - 0.00$	330.00 ± 1.00	100.00 ± 0.05	13.00 ± 0.02
	(inch)	0.266 ± 0.004	0.289 ± 0.004	0.074 ± 0.004	$0.059 + 0.004 - 0.000$	12.992 ± 0.039	3.937 ± 0.002	0.512 ± 0.001

SOT-223	SYMBOL	E	F	P	P0	P1	W	W1
	(mm)	1.75 ± 0.10	5.50 ± 0.05	8.00 ± 0.10	4.00 ± 0.10	2.00 ± 0.05	$12.00 + 0.30 - 0.10$	17.60 ± 1.00
	(inch)	0.069 ± 0.004	0.217 ± 0.002	0.315 ± 0.004	0.157 ± 0.004	0.079 ± 0.002	$0.472 + 0.012 - 0.004$	0.693 ± 0.039

Marking Code

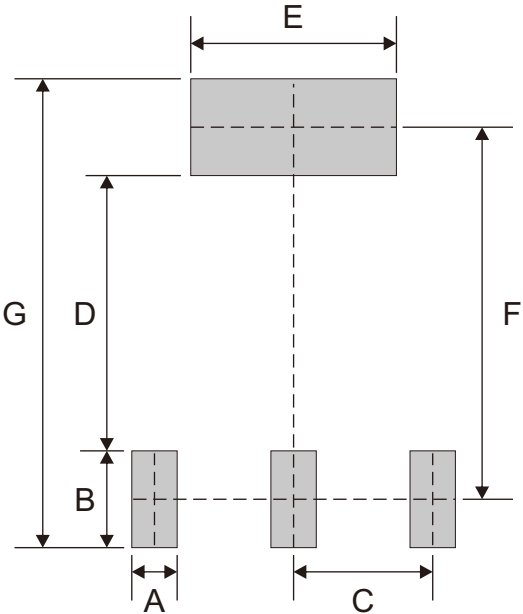
Part Number	Marking Code	
ABCP56-HF	BL	
ABCP56-16-HF	BL	BCP56-16



XXX = Control code

Suggested P.C.B. PAD Layout

SIZE	SOT-223	
	(mm)	(inch)
A	0.75	0.030
B	1.60	0.063
C	2.30	0.091
D	4.55	0.179
E	3.40	0.134
F	6.15	0.242
G	7.75	0.305



Standard Packaging

Case Type	REEL PACK	
	REEL (pcs)	Reel Size (inch)
SOT-223	2,500	13