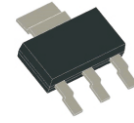


ABCP54/54-16-HF (NPN)

RoHS Device
Halogen Free



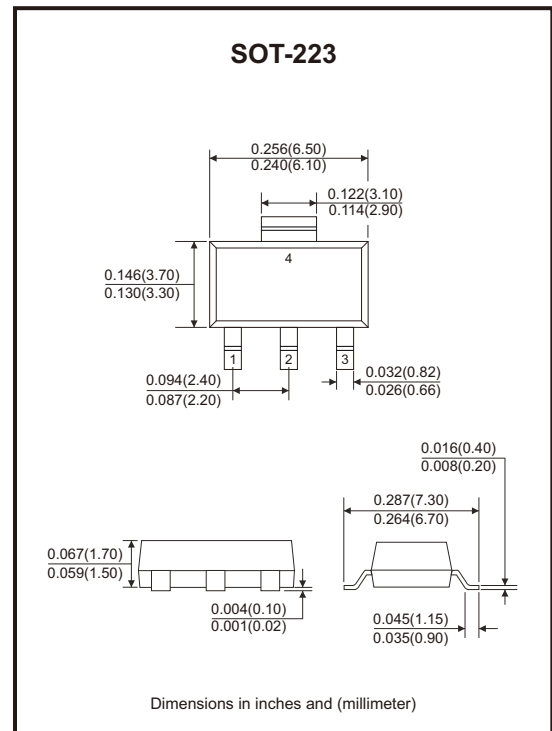
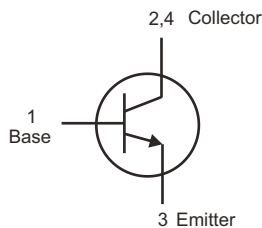
Features

- 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: Tin-plated, solderability per MIL-STD-202, method 208.

Circuit Diagram



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

Parameter	Symbol	Value	Units
Collector-base breakdown voltage	V _{CBO}	45	V
Collector-emitter breakdown voltage	V _{CEO}	45	V
Emitter-base breakdown voltage	V _{EBO}	5	V
Collector current (continuous)	I _C	1	A
Collector current (peak)	I _{CM}	1.5	A
Base current (continuous)	I _B	0.1	A
Base current (peak)	I _{BM}	0.2	A
Power dissipation	P _D	1.5	W
Thermal resistance, junction to air	R _{θJA}	83.3	°C/W
Junction temperature range	T _J	-55 to +150	°C
Storage temperature range	T _{STG}	-55 to +150	°C

Electrical Characteristics (Ta=25°C, unless otherwise specified)

Parameter	Conditions	Symbol	Min.	Max.	Unit
Collector-base breakdown voltage	$I_C = 100\mu A, I_E = 0$	$V_{(BR)CBO}$	45		V
Collector-emitter breakdown voltage	$I_C = 10mA, I_B = 0$	$V_{(BR)CEO}$	45		V
Emitter-base breakdown voltage	$I_E = 10\mu A, I_C = 0$	$V_{(BR)EBO}$	5		V
Collector cut-off current	$V_{CB} = 30V, I_E = 0, T_A = 25^\circ C$	I_{CBO}		100	nA
	$V_{CB} = 30V, I_E = 0, T_A = 150^\circ C$			20	μA
DC current gain	$V_{CE} = 2V, I_C = 5mA$	h_{FE}	25		
	$V_{CE} = 2V, I_C = 150mA$	h_{FE}	40	250	
	$V_{CE} = 2V, I_C = 150mA$	h_{FE}	100	250	
Collector-emitter saturation voltage	$I_C = 500mA, I_B = 50mA$	$V_{CE(sat)}$		0.5	V
Base-emitter voltage	$I_C = 0.5A, V_{CE} = 2V$	$V_{BE(on)}$		1	V
Transition frequency	$V_{CE} = 10V, I_C = 50mA, f = 20MHz$	f_T	100		MHz

Typical Rating and Characteristic Curves (ABCP54/54-16-HF)

Fig.1 - $h_{FE} — I_C$

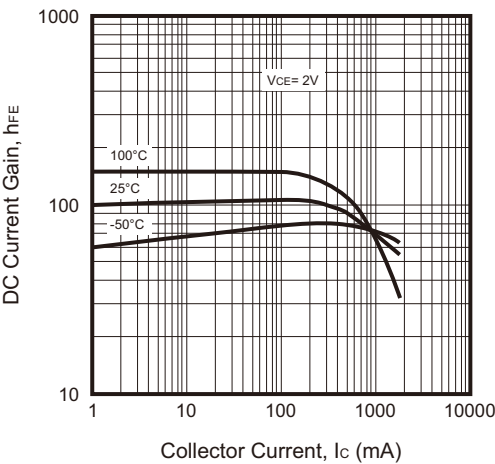
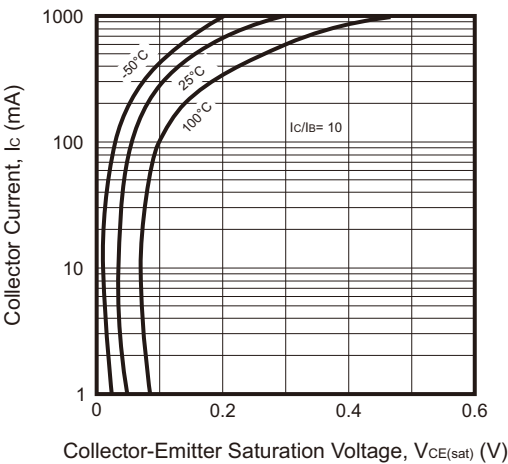
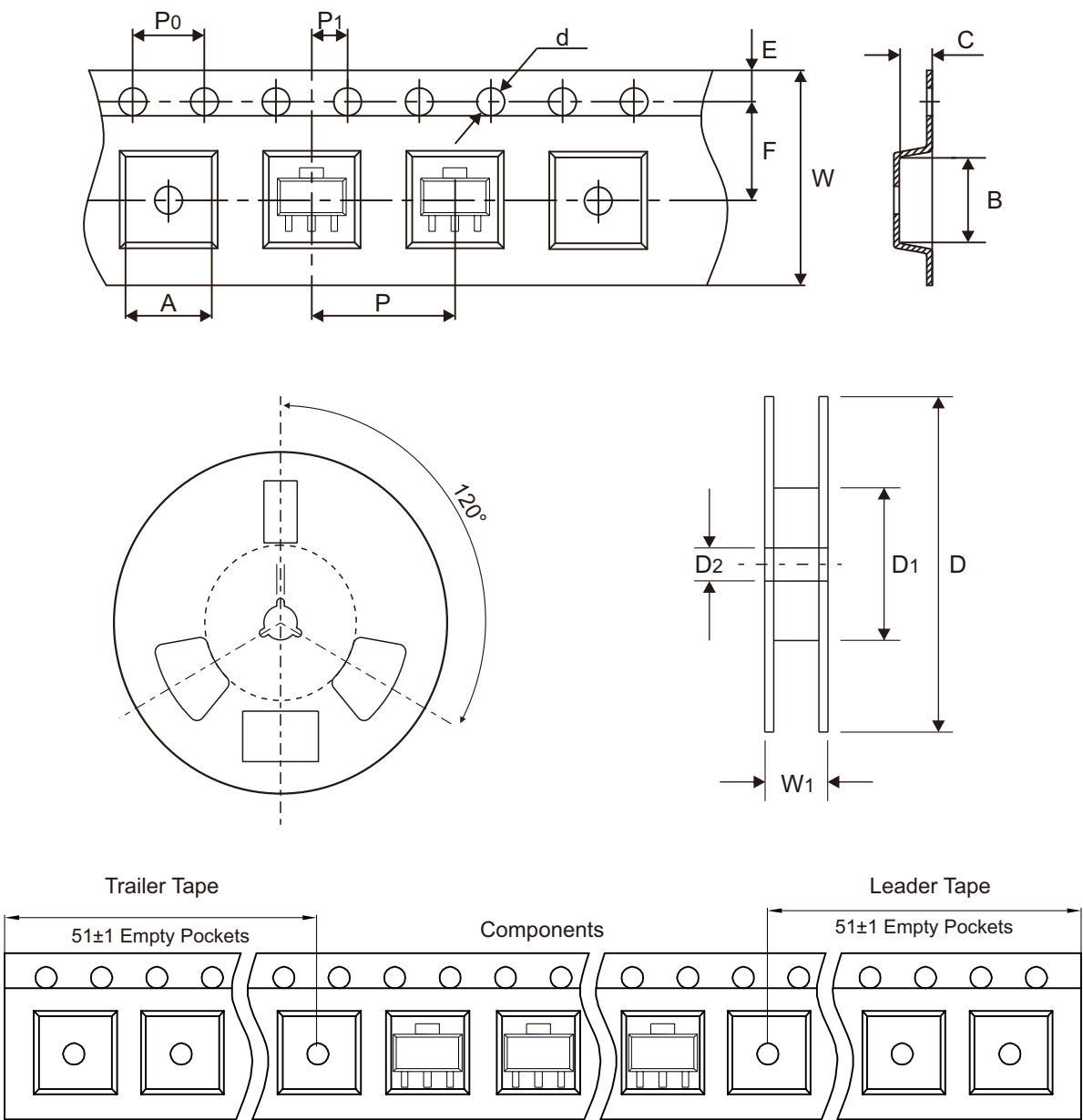


Fig.2 - $V_{CE(sat)} — I_C$



Reel Taping Specification

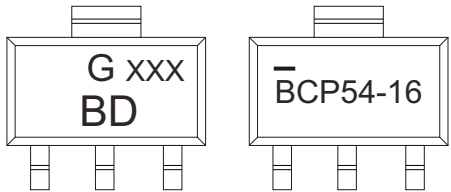


SOT-223	SYMBOL	A	B	C	d	D	D1	D2
	(mm)	6.765 ± 0.10	7.335 ± 0.10	1.88 ± 0.10	1.50 + 0.10 - 0.00	330.00 ± 1.00	100.00 ± 0.05	13.00 ± 0.02
	(inch)	0.266 ± 0.004	0.289 ± 0.004	0.074 ± 0.004	0.059 + 0.004 - 0.000	12.992 ± 0.039	3.937 ± 0.002	0.512 ± 0.001

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

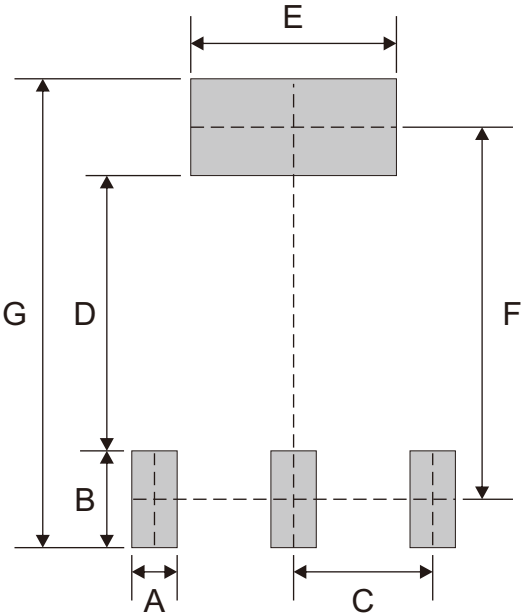
Part Number	Marking Code	
ABCP54-HF	BD	
ABCP54-16-HF	BD	BCP54-16



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	4,000	13