



DESCRIPTION

The BCP54_BCP55_BCP56 are available in SOT-223 Package.

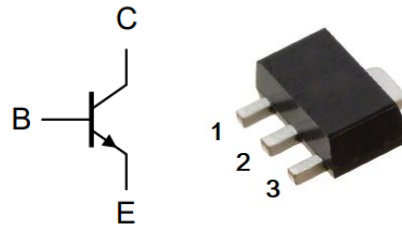
FEATURE

- High Collector Current
- 1.3W Power Dissipation
- High power dissipation capability

DESCRIPTION

- Linear Voltage regulators
- MOSFET drivers
- Low-side switches
- Battery-driven devices
- Power Management
- Amplifiers

PIN DESCRIPTION



SOT-223

ORDERING INFORMATION

Package Type	Part Number
SOT-223	BCP54-10
	BCP55-10
	BCP56-10
	BCP54-16
	BCP55-16
	BCP56-16
Note	SPQ: 2,500pcs/Reel
AiT provides all RoHS Compliant Products	

PIN#	DESCRIPTION
1	BASE
2	COLLECTOR
3	EMITTER

HFE CLASSIFICATION

Classification	hFE
10	63~160
16	100~250

**ABSOLUTE MAXIMUM RATINGS** $T_A = 25^\circ\text{C}$, unless otherwise specified

V_{CBO} , Collector-Base Voltage	BCP54	45V
	BCP55	60V
	BCP56	100V
V_{CEO} , Collector-Emitter Voltage	BCP54	45V
	BCP55	60V
	BCP56	80V
V_{EBO} , Emitter-Base Voltage		6V
I_C , Collector Current (DC)		1A
I_{CM} , Peak Collector Current		1.50A
I_{BM} , Peak Base Current		0.20A
P_{tot} , Total Power Dissipation *		1.33W
T_{stg} , Storage Temperature		$-65^\circ\text{C} \sim +150^\circ\text{C}$
T_j , Junction Temperature		150°C
T_{amb} , Operating Ambient Temperature		$-65^\circ\text{C} \sim +150^\circ\text{C}$
$R_{th\ j-a}$, Thermal Resistance from Junction to Ambient		94K/W
$R_{th\ j-s}$, Thermal Resistance from Junction to Soldering Point		13K/W

Stresses above may cause permanent damage to the device. These are stress ratings only and functional operation of the device at these or any other conditions beyond those indicated in the Electrical Characteristics are not implied. Exposure to absolute maximum rating conditions for extended periods may affect device reliability.

* With heat dissipation panel

ELECTRICAL CHARACTERISTICS $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector Cut-Off Current		I_{CBO}	$I_E=0A, V_{CB}=30V$	-	-	100	μA
			$I_E=0A, V_{CB}=30V, T_J=150^\circ\text{C}$	-	-	10	
Emitter Cut-Off Current		I_{EBO}	$I_C=0A, V_{EB}=5V$	-	-	100	nA
DC Current Gain		h_{FE}	$I_C=5mA, V_{CE}=2V$	63	-	-	
			$I_C=150mA, V_{CE}=2V$	63	-	250	
			$I_C=500mA, V_{CE}=2V$	40	-	-	
DC Current Gain	BCP54-10, BCP55-10, BCP56-10	h_{FE}	$V_{CE}=2V, I_C=150mA$	63	-	160	-
	BCP54-16, BCP55-16, BCP56-16			100	-	250	
Collector-Emitter Saturation Voltage		$V_{CE\ sat}$	$I_C=0.5A, I_B=50mA,$	-	-	500	mV
Base-Emitter Voltage		V_{BE}	$I_C=0.5A, V_{CE}=2V$	-	-	1	V
Transit frequency		f_T	$I_C=10mA, V_{CE}=5V, F=100MHz$	-	130	-	MHz
DC Current Gain Ratio of the Complementary Pairs		h_{FE1}/h_{FE2}	$ I_C =150mA, V_{CB} =2V$	9	10	1.60	-



TYPICAL PERFORMANCE CHARACTERISTICS

Fig 1. Static Characteristic

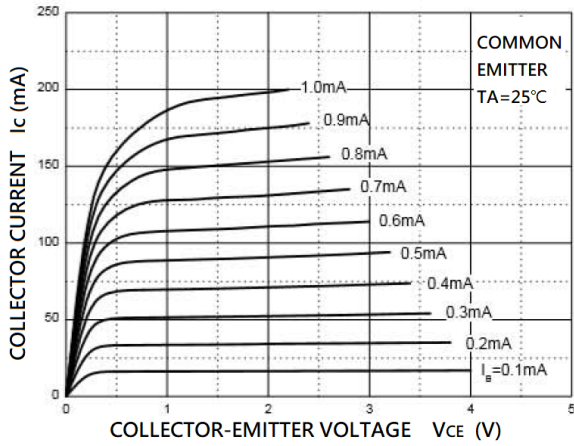


Fig 2. h_{FE} vs. I_c

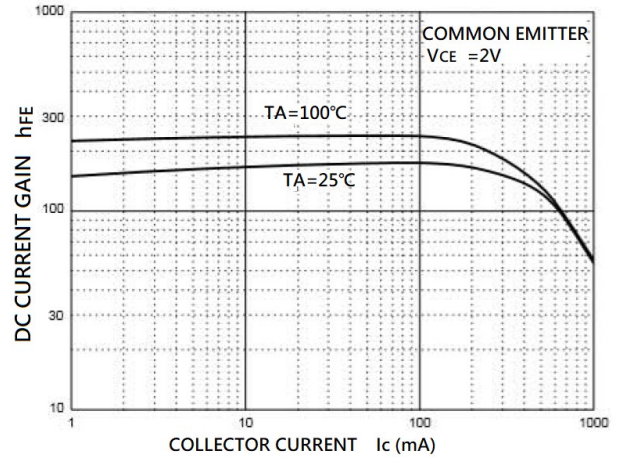


Fig 3. V_{CEsat} vs. I_c

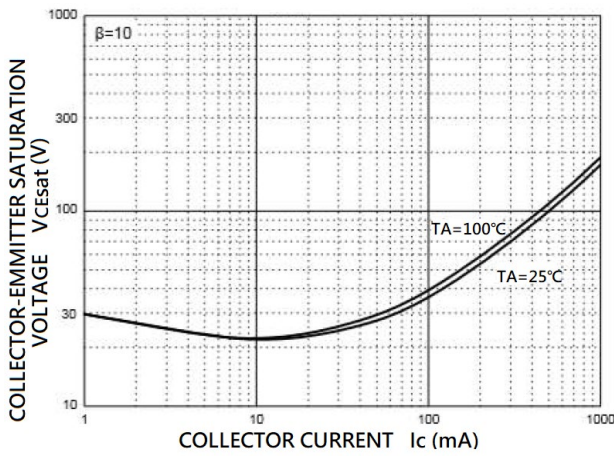
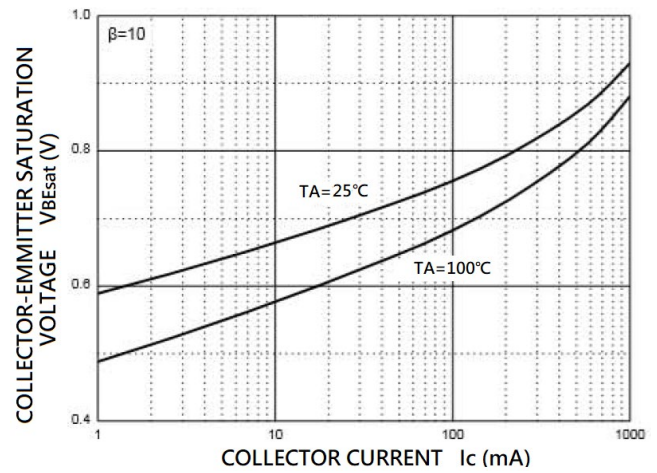


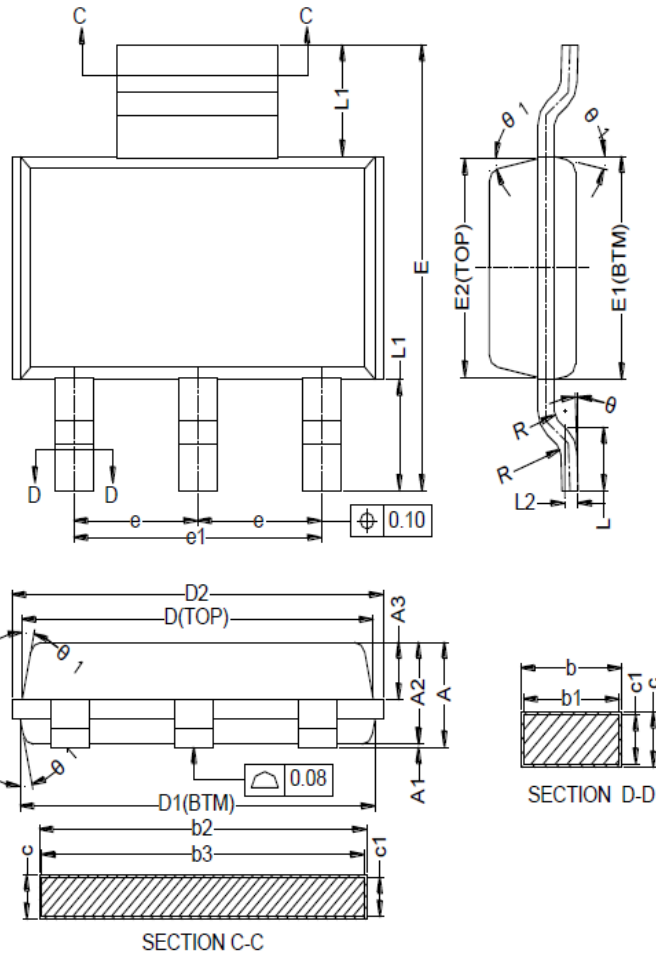
Fig 4. V_{BEsat} vs. I_c





PACKAGE INFORMATION

Dimension in SOT-223 Package



Symbol	Min	Max	Symbol	Min	Max
A	1.50	1.80	E	6.80	7.20
A1	0.02	0.10	E1	3.40	3.60
A2	1.50	1.70	E2	3.33	3.53
A3	0.80	1.00	e	2.30BSC	
b	0.67	0.80	e1	4.60BSC	
b1	0.66	0.76	L	0.80	1.20
b2	2.96	3.09	L1	1.75REF	
b3	2.95	3.05	L2	0.25BSC	
c	0.30	0.35	R	0.10	-
c1	0.29	0.31	R1	0.10	-
D	6.48	6.58	θ	0°	8°
D1	6.55	6.65	θ_1	10°	14°
D2	-	7.05			



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