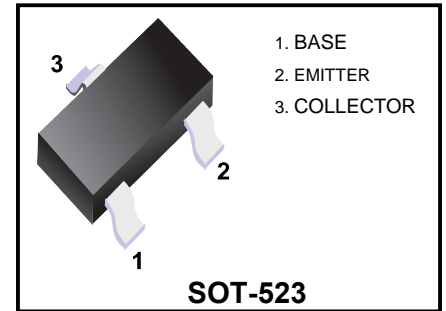


**NPN Silicon Epitaxial Transistor**

for switching and amplifier applications



**Absolute Maximum Ratings (Ta = 25 °C)**

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	BC846T 80	V
		BC847T, BC850T 50	
		BC848T, BC849T 30	
Collector Emitter Voltage	$V_{CEO}$	BC846T 65	V
		BC847T, BC850T 45	
		BC848T, BC849T 30	
Emitter Base Voltage	$V_{EBO}$	BC846T, BC847T 6	V
		BC848T, BC849T, BC850T 5	
Collector Current	$I_C$	100	mA
Peak Collector Current	$I_{CM}$	200	mA
Power Dissipation	$P_{tot}$	150	mW
Junction Temperature	$T_j$	150	°C
Storage Temperature Range	$T_{stg}$	- 65 to + 150	°C

**Characteristics at Ta = 25 °C**

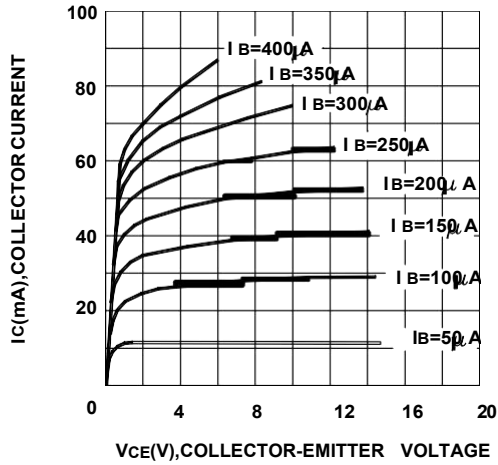
Parameter	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$	Current Gain Group A	$h_{FE}$	110	-	220	-
	B	$h_{FE}$	200	-	450	-
	C	$h_{FE}$	420	-	800	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	$I_{CBO}$	-	-	15	nA	
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.5\text{ mA}$ at $I_C = 100\text{ mA}$ , $I_B = 5\text{ mA}$	$V_{CE(sat)}$	-	-	250	mV	
	$V_{CE(sat)}$	-	-	600	mV	
Base Emitter On Voltage at $V_{CE} = 5\text{ V}$ , $I_C = 2\text{ mA}$ at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$	$V_{BE(on)}$	580	-	700	mV	
	$V_{BE(on)}$	-	-	720	mV	
Transition Frequency at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	300	-	MHz	
Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	6	pF	

**MARKING CODE**

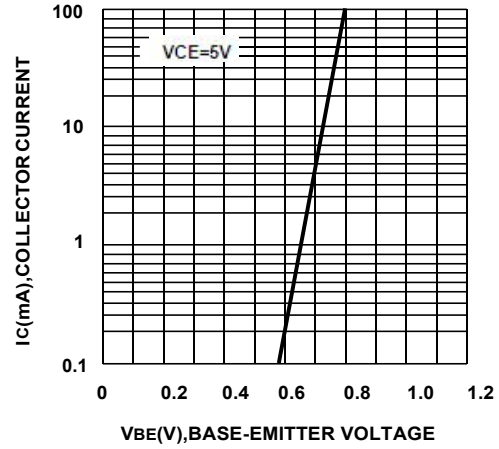
TYPE	846AT	846BT	846CT	847AT	847BT	847CT	848AT	848BT	848CT
MARKING	1A	1B	1C	1E	1F	1G	1J	1K	1L
TYPE	849AT	849BT	849CT	850AT	850BT	850CT			
MARKING	2A	2B	2C	2E	2F	2G			

Typical Characteristics

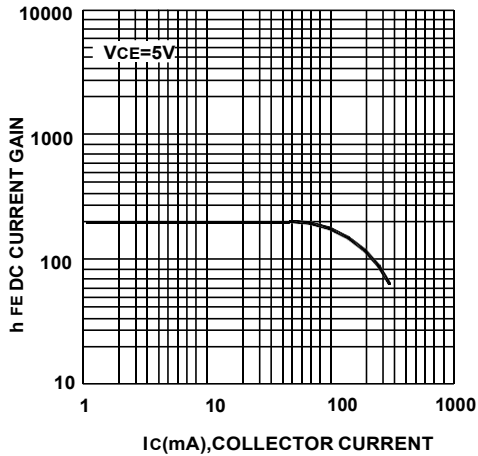
STATIC CHARACTERISTIC



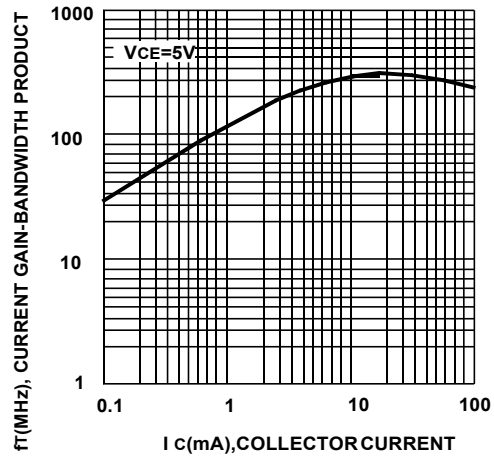
BASE-EMITTER ON VOLTAGE



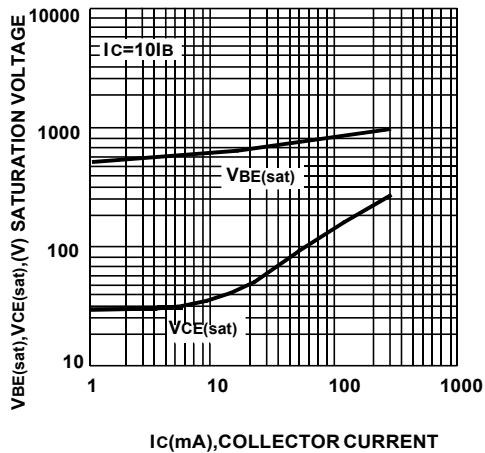
DC CURRENT GAIN



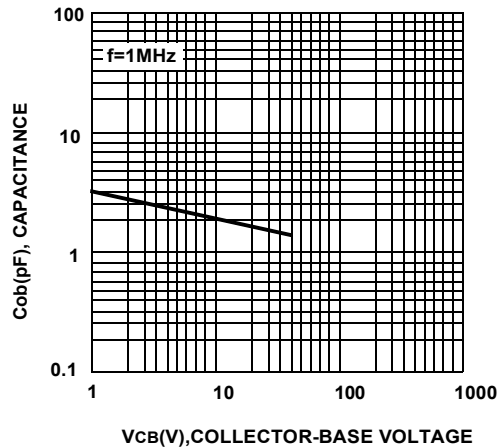
CURRENT GAIN BANDWIDTH PRODUCT



BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



**Ordering information**

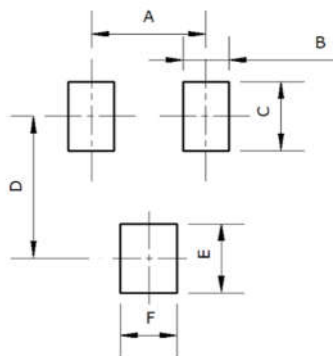
Package	Packing Description	Base Quantity	Packing Quantity
SOT-523	Tape/Reel,7"reel	3000pcs/Reel	24000PCS/Box 120000PCS/Carton

**Package Dimensions**

**SOT-523**

Dim.	Millimeter (mm)		mil	
	Min.	Max.	Min.	Max.
A	1.50	1.70	59	67
B	0.75	0.85	30	33
C	1.45	1.75	57	69
D	0.50TYP		0.020TYP	
E	0.90	1.10	35	43
G	0.00	0.10	0	4
H	0.60	0.80	24	31
J	0.10	0.20	4	8
K	0.15	0.35	6	14
L	0.26	0.46	10	18

**The recommended mounting pad size**



Millimeter (mm)	
Dim.	TYP
A	1.00
B	0.40
C	0.60
D	1.24
E	0.60
F	0.50

## Disclaimer

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