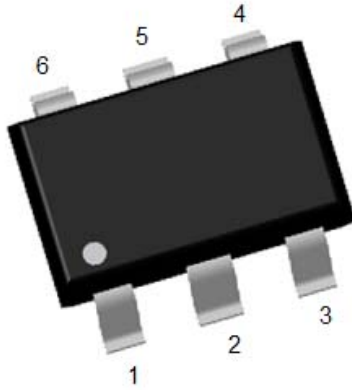


Dual NPN+PNP Small Signal Transistor

- 1、Emitter
- 2、Base
- 3、Collector
- 4、Emitter
- 5、Base
- 6、Collector



SOT-363

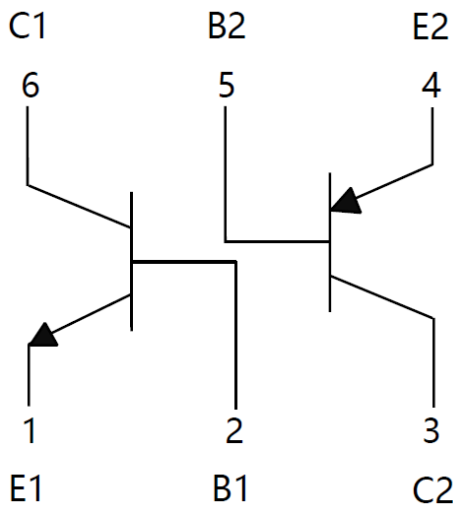
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- Moisture Sensitivity Level 1
- Part no. with suffix “Q” means AEC-Q101 qualified

Mechanical Data

- **Package:** SOT-363
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Marking:** 7P

Equivalent circuit



Ordering Information (Example)

PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC847PNQ	F2	Approximate 0.007g	3000	30000	120000	7" reel



BC847PNQ

■TR1 NPN Pin1、2、6 Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	50
Collector-Emitter Voltage	V_{CEO}	V	$I_C=10mA, I_B=0$	45
Emitter-Base Voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	6
Collector Current	I_C	mA		100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150

■TR1 NPN Pin1、2、6 Electrical Characteristics (Ta=25°C unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=10\mu A, I_E=0$	50		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=10mA, I_B=0$	45		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=10\mu A, I_C=0$	6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=30V, I_E=0$			100
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB}=5V, I_C=0$			100
DC current gain	h_{FE}		$V_{CE}=5V, I_C=2mA$	200		450
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=10mA, I_B=0.5mA$			0.25
			$I_C=100mA, I_B=5mA$			0.65
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=10mA, I_B=0.5mA$			1.05
			$I_C=100mA, I_B=5mA$			1.1
Base-emitter Voltage	V_{BE}	V	$V_{CE}=5V, I_C=2mA$	0.58	0.665	0.7
Transition frequency	f_T	MHz	$V_{CE}=5V, I_C=10mA, f=30MHz$	150		



BC847PNQ

■TR2 PNP Pin3、4、5 Maximum Ratings (Ta=25°C Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=-10\mu A, I_E=0$	-50
Collector-Emitter Voltage	V_{CEO}	V	$I_C=-10mA, I_B=0$	-45
Emitter-Base Voltage	V_{EBO}	V	$I_E=-10\mu A, I_C=0$	-5
Collector Current	I_C	mA		-100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	°C		-55 to +150
Storage Temperature	T_{stg}	°C		-55 to +150

■TR2 PNP Pin3、4、5 Electrical Characteristics (Ta=25°C unless otherwise specified)

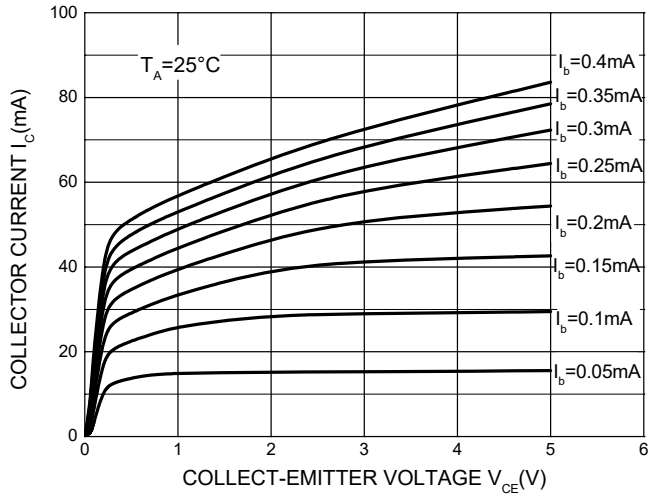
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=-10\mu A, I_E=0$	-50		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=-10mA, I_B=0$	-45		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=-10\mu A, I_C=0$	-5		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=-30V, I_E=0$			-100
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB}=-5V, I_C=0$			-100
DC current gain	h_{FE}		$V_{CE}=-5V, I_C=-2mA$	220		475
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-10mA, I_B=-0.5mA$			-0.3
			$I_C=-100mA, I_B=-5mA$			-0.65
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=-10mA, I_B=-0.5mA$			-1
			$I_C=-100mA, I_B=-5mA$			-1.1
Base-emitter Voltage	V_{BE}	V	$V_{CE}=-5V, I_C=-2mA$	-0.6		-0.75
Transition frequency	f_T	MHz	$V_{CE}=-5V, I_C=-10mA, f=30MHz$	100		



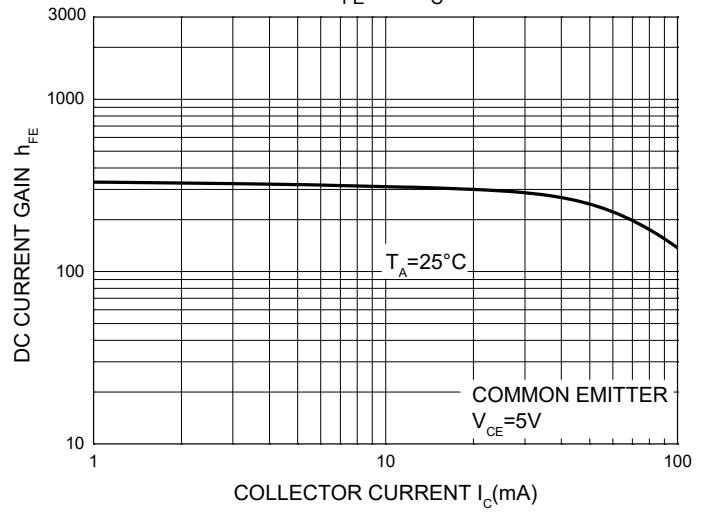
BC847PNQ

■ TR1 NPN Pin1、2、6 Characteristics (Typical)

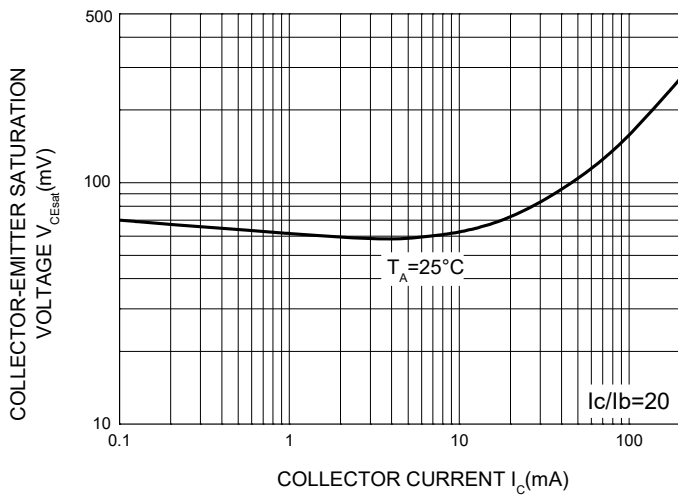
Static Characteristics



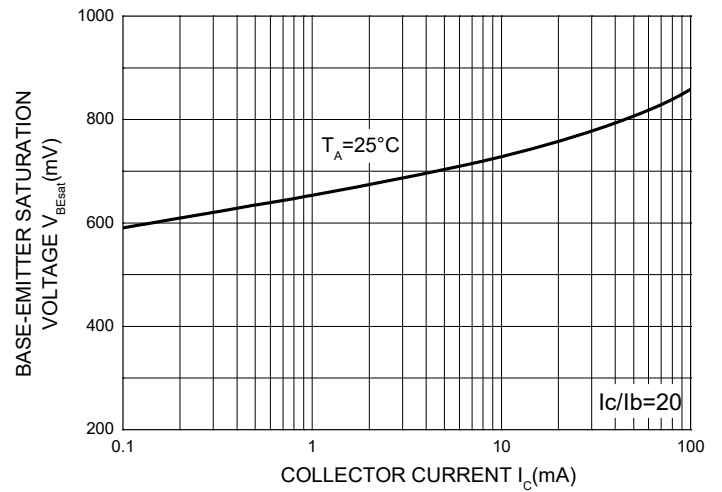
$h_{FE} - I_C$



$V_{CEsat} - I_C$



$V_{BEsat} - I_C$

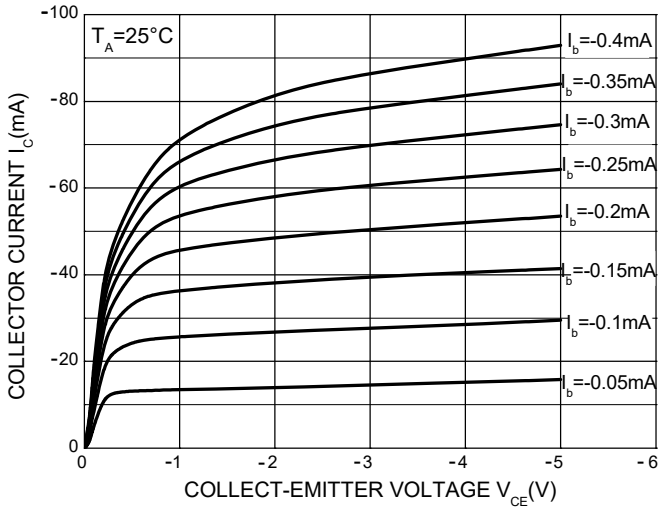




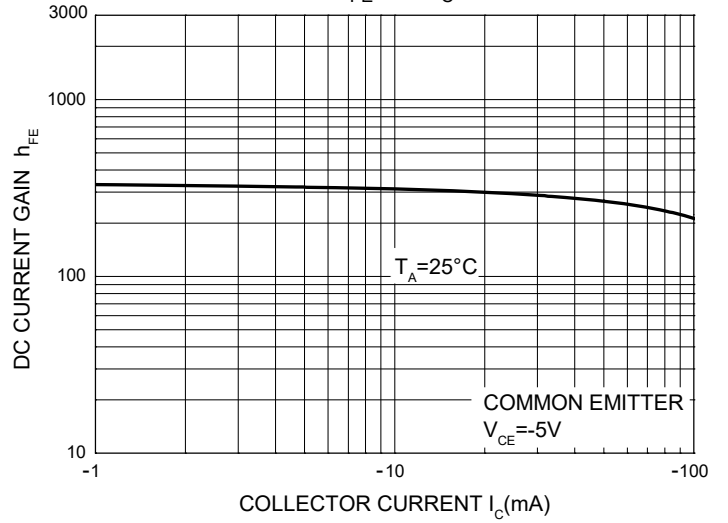
BC847PNQ

■ TR2 PNP Pin3、4、5 Characteristics (Typical)

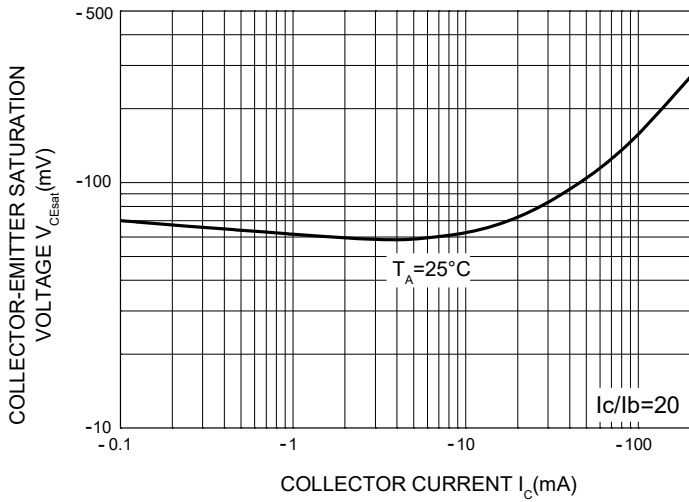
Static Characteristics



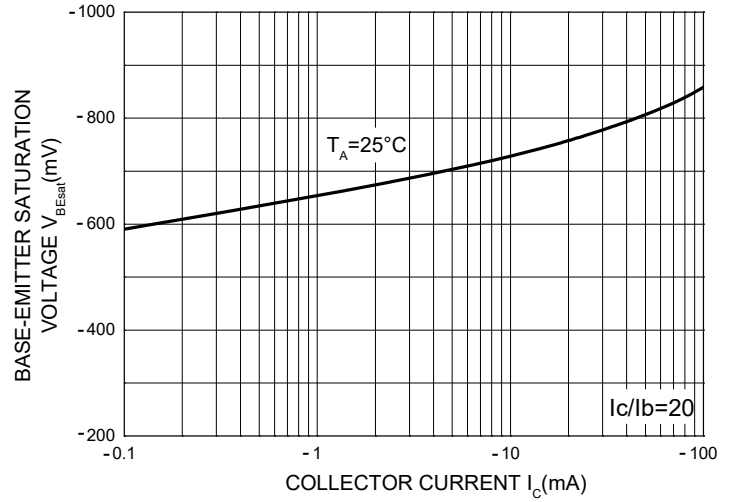
$h_{FE} - I_C$



$V_{CEsat} - I_C$



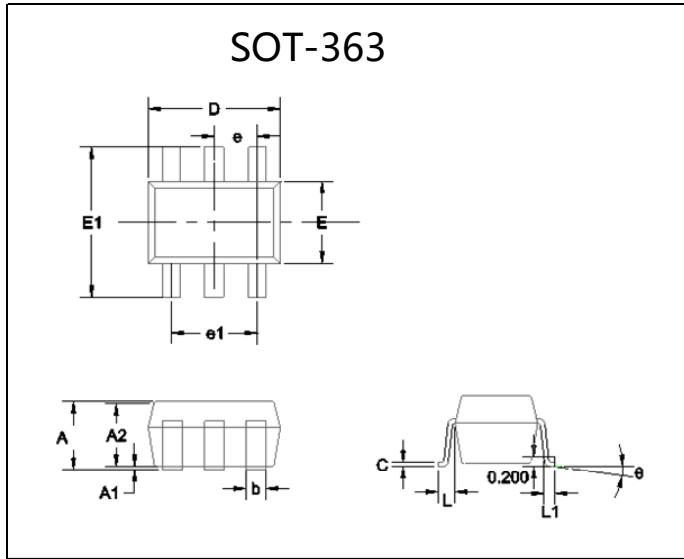
$V_{BEsat} - I_C$





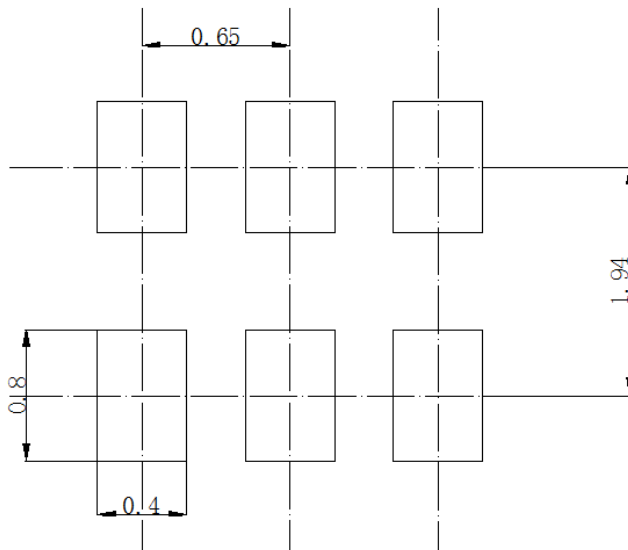
BC847PNQ

■SOT-363 Package Outline Dimensions



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.035	0.043	0.90	1.10	
A1	0.000	0.004	0.00	0.10	
A2	0.035	0.039	0.90	1.00	
b	0.006	0.014	0.15	0.35	
c	0.002	0.010	0.05	0.25	
D	0.071	0.087	1.80	2.20	
E	0.045	0.053	1.15	1.35	
E1	0.085	0.096	2.15	2.45	
e	0.026Typ		0.65Typ		
e1	0.047	0.055	1.20	1.40	
L	0.021Typ		0.525Typ		
L1	0.010	0.018	0.26	0.46	
θ	0°	8°	0°	8°	

■SOT-363 Soldering Footprint



Unit: mm



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