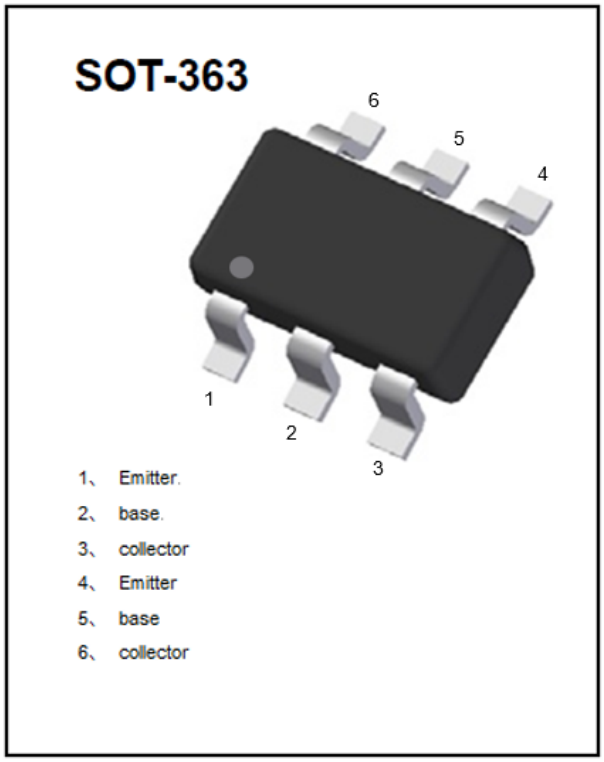
Dual NPN+PNP Small Signal Transistor



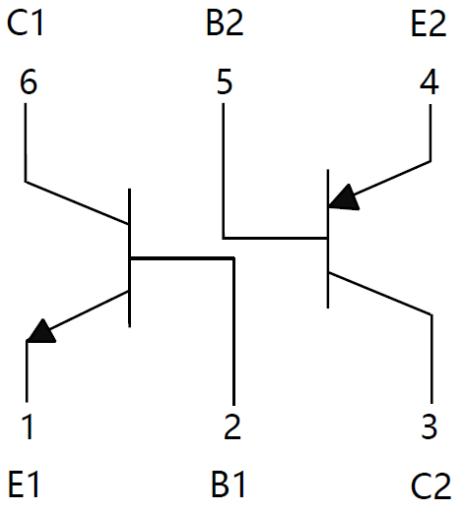
Features

- Epoxy meets UL-94 V-0 flammability rating
- Surface mount package ideally Suited for Automatic Insertion
- NPN/PNP

Mechanical Data

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

■Equivalent circuit



■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
BC847PN	F2	Approximate 0.009g	3000	30000	120000	7” reel

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

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	IC=10μA,IE=0	50
Collector-Emitter Voltage	V_{CEO}	V	IC =10mA,IB=0	45
Emitter-Base Voltage	V_{EBO}	V	IE=1μA,IC=0	6
Collector Current	I_C	mA		100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

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

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=10μA,IE=0	50		
Collector-emitter breakdown voltage	V_{CEO}	V	IC =10mA,IB=0	45		
Emitter-base breakdown voltage	V_{EBO}	V	IE=1μA,IC=0	6		
Collector-Base cut-off current	I_{CBO}	nA	VCB=30V,IE=0			15
Emitter-Base Cut-off current	I_{EBO}	nA	VEB=5V,IC=0			100
DC current gain	h_{FE}		VCE=5V,IC=2mA	200		450
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=10mA,IB=0.5mA			0.25
			IC=100mA,IB=5mA			0.6
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	IC=10mA,IB=0.5mA			1.05
			IC=100mA,IB=5mA			1.1
Base-emitter Voltage	V_{BE}	V	VCE=5V,IC=2mA			0.7
			VCE=5V,IC=10mA			0.72
Transition frequency	f_T	MHz	VCE=5V,IC=10mA,f=100MHz	100		
Noise figure	NF	dB	VCE=5V,Ic=0.2mA, f=1kHz,Rg=2KΩ,Δf=200Hz			10

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

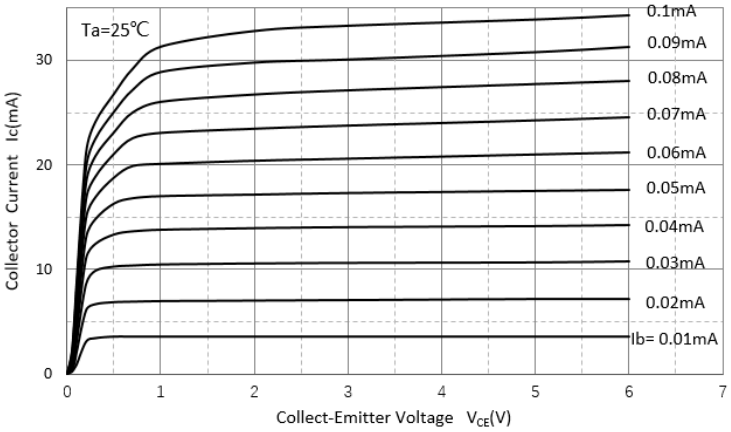
Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	IC=-10μA,IE=0	-50
Collector-Emitter Voltage	V_{CEO}	V	IC =-10mA,IB=0	-45
Emitter-Base Voltage	V_{EBO}	V	IE=-1μA,IC=0	-5
Collector Current	I_C	mA		-100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	℃		-55 to +150
Storage Temperature	T_{stg}	℃		-55 to +150

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

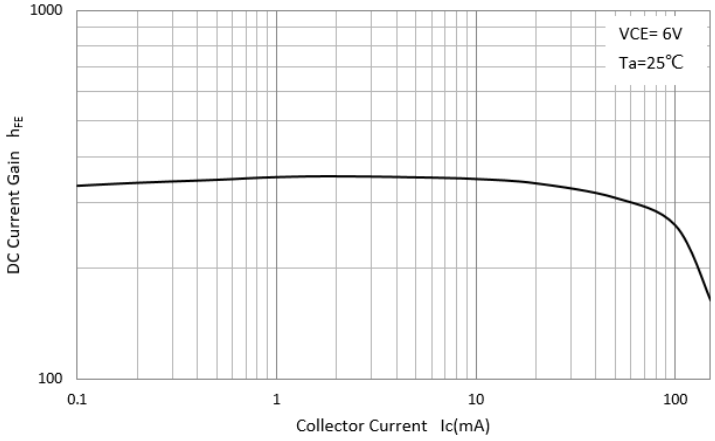
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	IC=-10μA,IE=0	-50		
Collector-emitter breakdown voltage	V_{CEO}	V	IC =-10mA,IB=0	-45		
Emitter-base breakdown voltage	V_{EBO}	V	IE=-1μA,IC=0	-6		
Collector-Base cut-off current	I_{CBO}	nA	VCB=-30V,IE=0			-15
Emitter-Base Cut-off current	I_{EBO}	nA	VEB=-5V,IC=0			-100
DC current gain	h_{FE}		VCE=-5V,IC=-2mA	220		475
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	IC=-10mA,IB=-0.5mA			-0.3
			IC=-100mA,IB=-5mA			-0.65
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	IC=-10mA,IB=-0.5mA			-1
			IC=-100mA,IB=-5mA			-1
Base-emitter Voltage	V_{BE}	V	VCE=-5V,IC=-2mA			-0.75
			VCE=-5V,IC=-10mA			-0.82
Transition frequency	f_T	MHz	VCE=-5V,IC=-10mA,f=100MHz	100		
Noise figure	NF	dB	VCE=-5V,Ic=-0.2mA, f=1kHz,Rg=2KΩ,Δf=200Hz			10

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

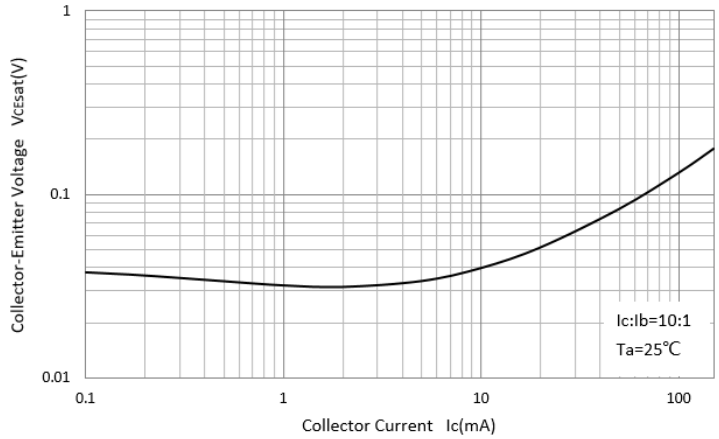
Static Characteristic



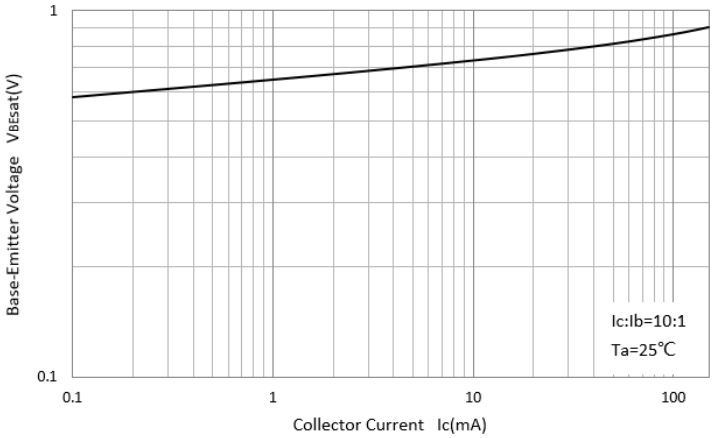
DC Current Gain



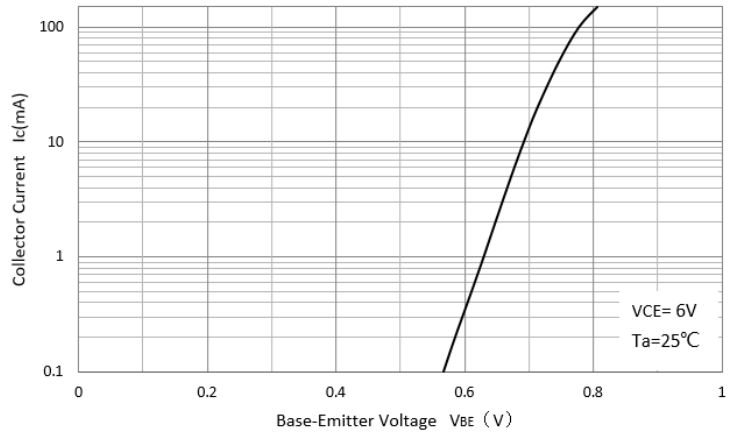
Collector-Emitter Saturation Voltage



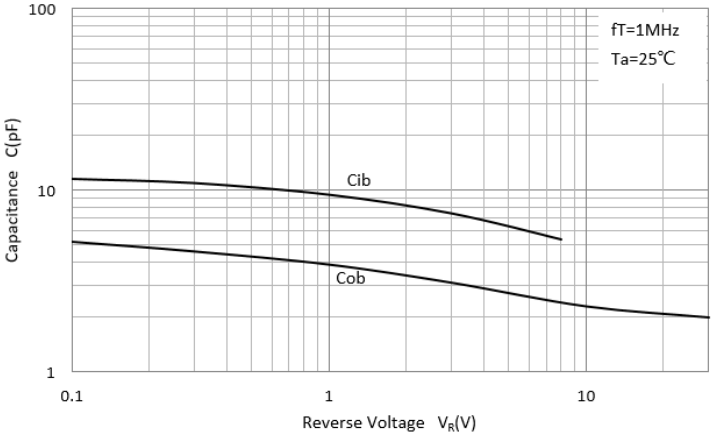
Base-Emitter Saturation Voltage



Base-Emitter On Voltage

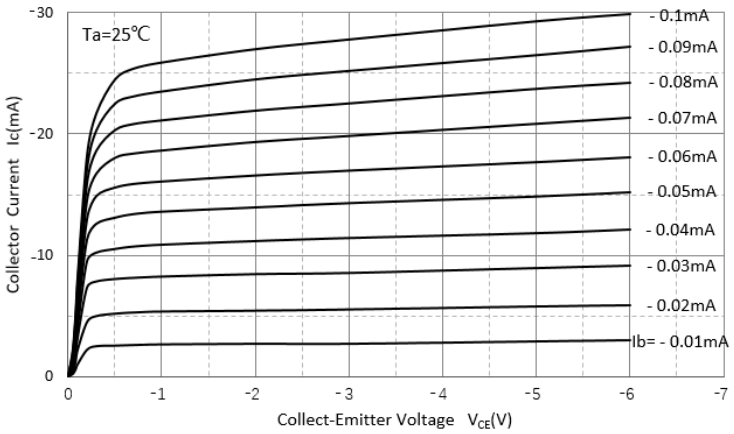


Cob/Cib-V_{CB}/V_{EB}

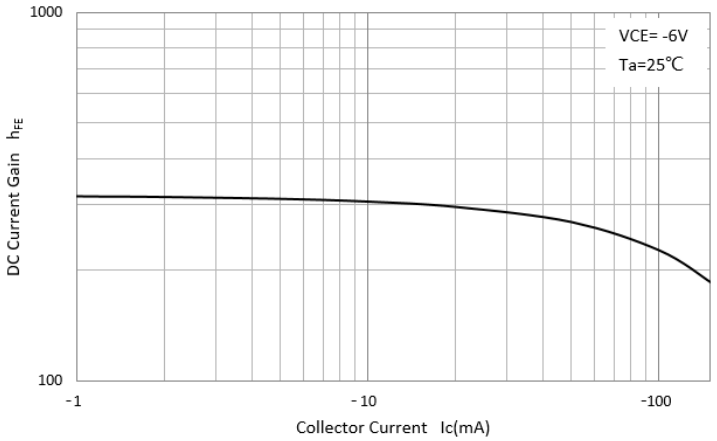


■ TR2 PNP Pin3、4、5 Characteristics (Typical)

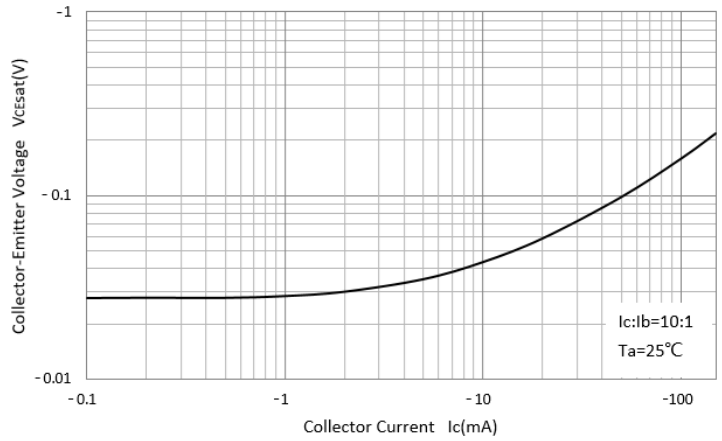
Static Characteristic



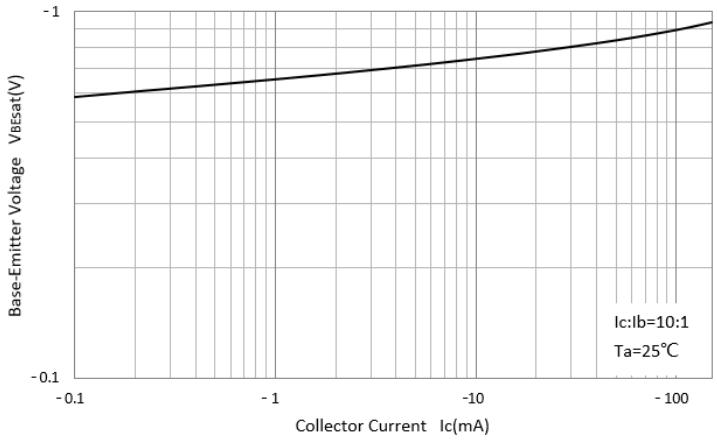
DC Current Gain



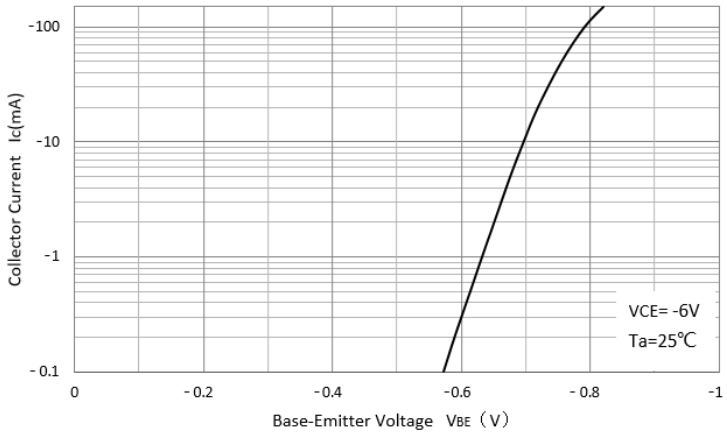
Collector-Emitter Saturation Voltage



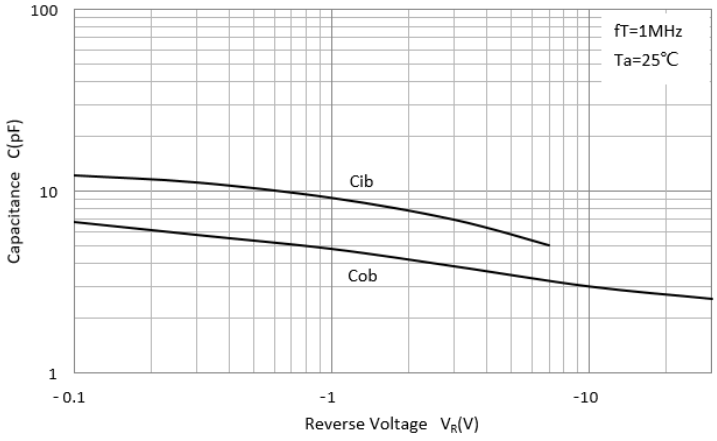
Base-Emitter Saturation Voltage



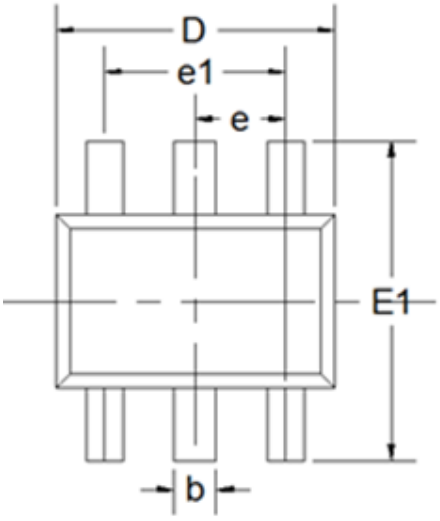
Base-Emitter On Voltage



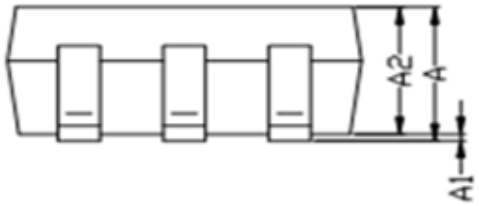
Cob/Cib-V_{CB}/V_{EB}

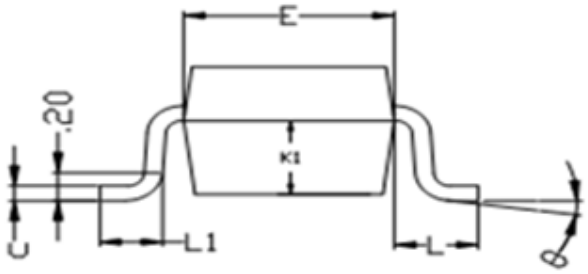


■SOT-363 Package Outline Dimensions

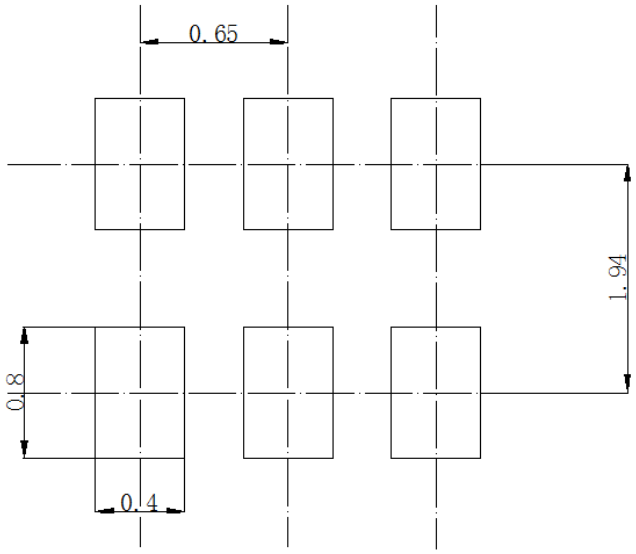


DIMENSIONS				
DIM	INCHES		MM	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.9	1.1
A1	0	0.004	0	0.1
A2	0.035	0.039	0.9	1
b	0.006	0.014	0.15	0.35
c	0.002	0.01	0.05	0.25
D	0.071	0.087	1.8	2.2
E	0.045	0.053	1.15	1.35
E1	0.085	0.096	2.15	2.45
e	0.026Typ		0.65Typ	
e1	0.047	0.055	1.2	1.4
L	0.021Typ		0.525Typ	
L1	0.01	0.018	0.26	0.46
θ	0°	8°	0°	8°





■SOT-363 Soldering Footprint



Unit：mm

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