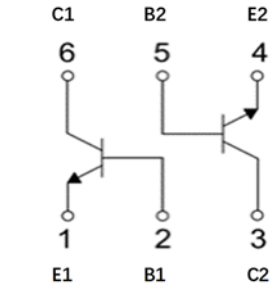
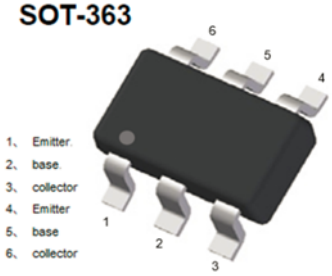
Dual NPN Small Signal Transistor



SOT-363



Features

- Moisture sensitivity level 1
- Halogen free and RoHS compliant
- Surface mount package ideally suited for automatic insertion

Application

- Signal amplification
- Switching circuit

Mechanical data

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

■ **Maximum Ratings** (T_a=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Value
Device marking code				6Ct
Collector-base voltage	V_{CBO}	V	I_C=10uA, 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=1uA, I_C=0	5
Collector current	I_C	mA		500
Power dissipation	P_D	mW		300
Operation junction temperature	T_j	℃		-55 to +150
Storage temperature	T_{STG}	℃		-55 to +150

■ Electrical Characteristics (Ta=25℃ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	Typ	Max
Collector-base breakdown voltage	$V_{(BR)CBO}$	V	I_C=10uA, I_E=0	50		
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	V	I_C=10mA, I_B=0	45		
Emitter-base breakdown voltage	$V_{(BR)EBO}$	V	I_E=1uA, I_C=0	5		
Collector cut-off current	I_{CBO}	uA	V_{CB}=45V			0.1
Emitter-base cutoff current	I_{EBO}	uA	V_{EB}=4V			0.1
DC current gain	h_{FE}		I_C=100mA, V_{CE}=1.0V	250		600
			I_C=500mA, V_{CE}=1.0V	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	I_C=500mA, I_B=50mA			0.7
Base-emitter saturation voltage	$V_{BE(sat)}$	V	I_C=500mA,I_B=50mA			1.2
Transition frequency	f_T	MHz	I_C=10mA,V_{CE}=5.0V, f=100MHz	100		
Collector-base output capacitance	Cob	pF	V_{CB}=10V,I_E=0A,f=1MHz		10	

■ Thermal Characteristics

Parameter	Symbol	Unit	Value
Thermal resistance, junction-to-ambient	$R_{\theta J-A}$(1)	℃/W	417
Thermal resistance, junction-to-case	$R_{\theta J-C}$(1)	℃/W	333

Note:

（1）Device mounted on PCB, single-sided copper， with standard footprint

■Characteristics

Fig 1：Static Characteristics

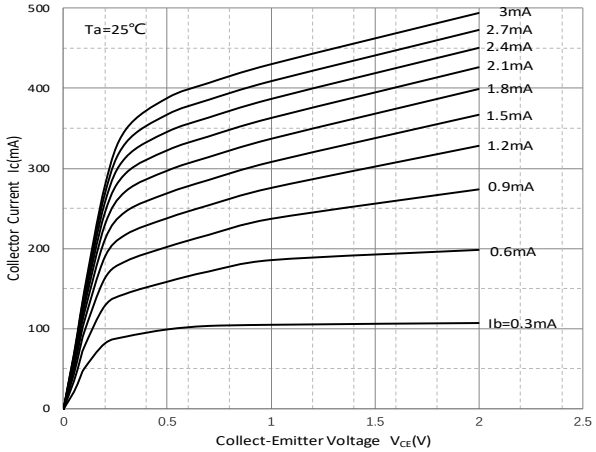


Fig 2：DC Current Gain Characteristics

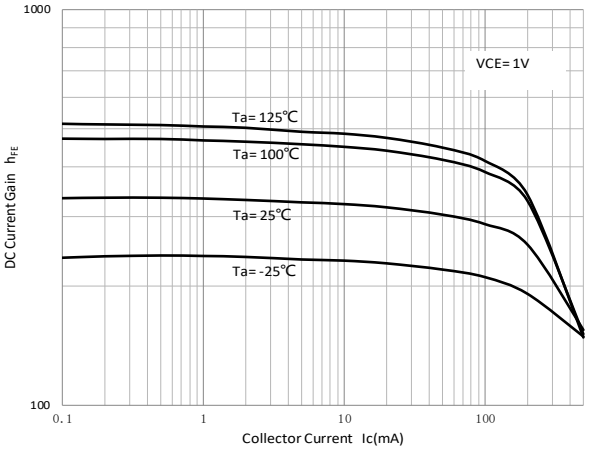


Fig 3：Collector-Emitter Saturation Voltage

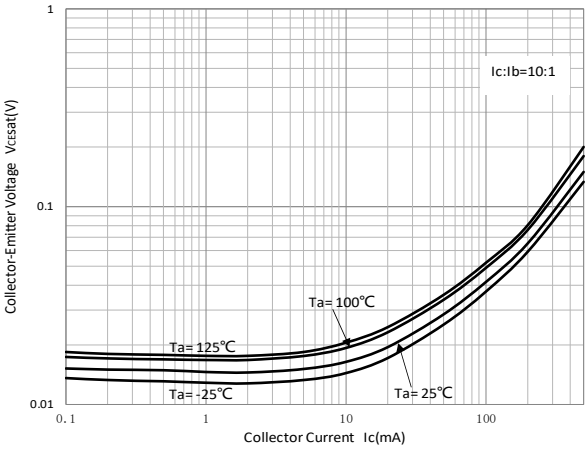


Fig 4：Base-Emitter Saturation Voltage

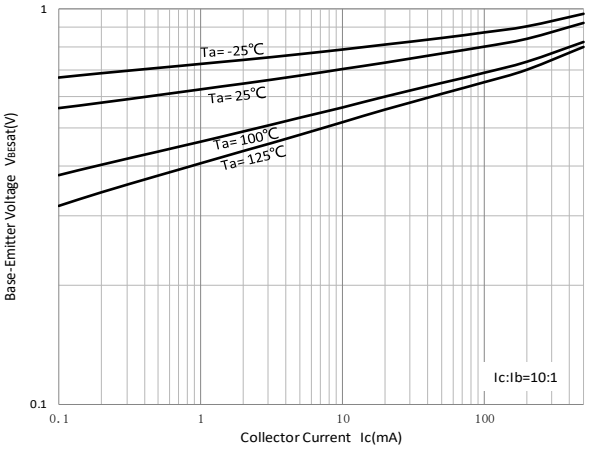


Fig 5：Base-emitter on voltage

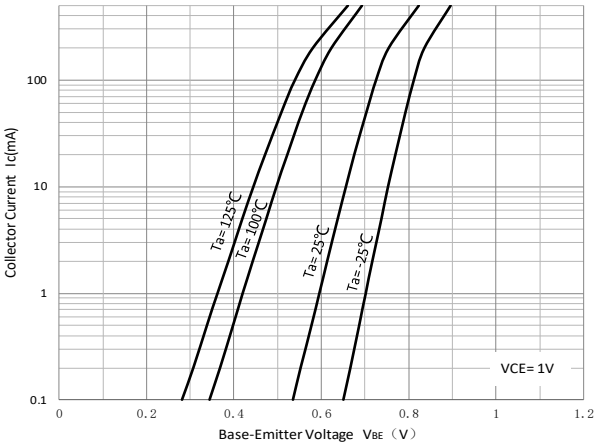


Fig 6：Cob/Cib-V_{CB}/V_{EB}

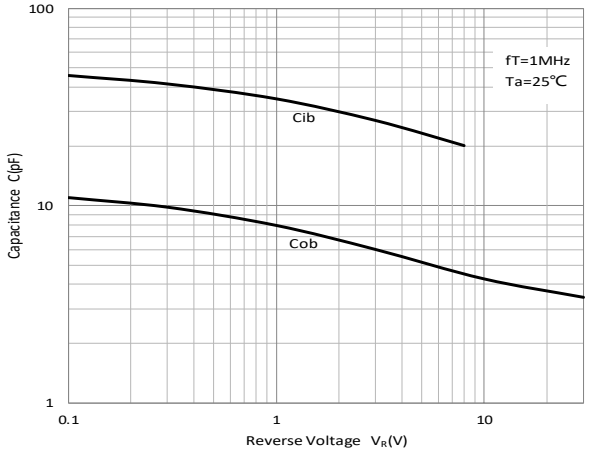
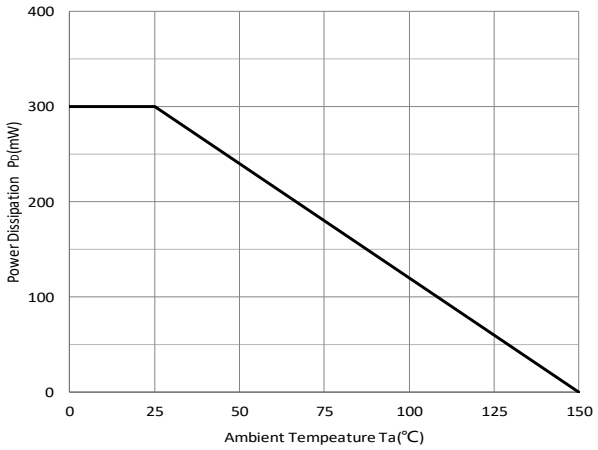


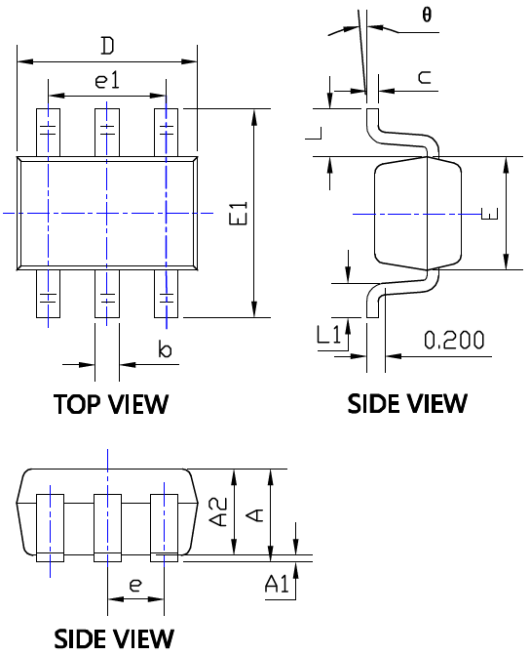
Fig 7：P_D-Ta Curve



■Ordering Information

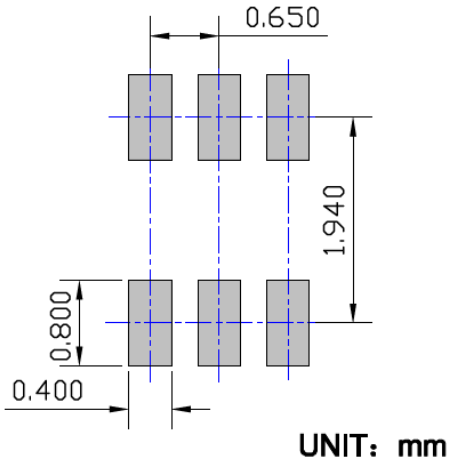
Preferred P/N	Packing code	Unit weight(g)	Minimum package(pcs)	Inner box quantity(pcs)	Outer carton quantity(pcs)	Delivery mode
BC817BS	F2	Approximate 0.009	3000	30000	120000	7” reel
BC817BS	F3	Approximate 0.009	10000	/	210000	7” reel

■ Outline Dimensions



DIMENSIONS				
SYMBOL	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A	0.035	0.043	0.900	1.100
A1	0.000	0.004	0.000	0.100
A2	0.035	0.039	0.900	1.000
b	0.006	0.014	0.150	0.350
c	0.004	0.010	0.100	0.250
D	0.071	0.087	1.800	2.200
E	0.045	0.053	1.150	1.350
E1	0.085	0.096	2.150	2.450
e	0.026TYP		0.650TYP	
e1	0.047	0.055	1.200	1.400
L	0.021REF		0.525REF	
L1	0.010	0.018	0.260	0.460
θ	0°	8°	0°	8°

■ Suggested Pad Layout



UNIT：mm

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