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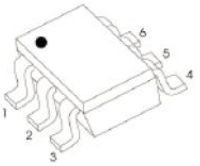
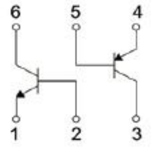
ChipNobo Co., Ltd

BC847BPN,115-CN

SOT-363 Plastic-Encapsulate Dual Transistor (NPN+PNP)

SOT-363





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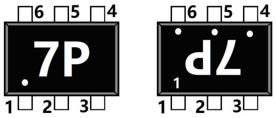


特征 Features

- Epitaxial Die Construction
- Two isolated NPN/PNP(BC847W+BC857W) Transistors in one package

机械数据 Mechanical Data

- SOT-363 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

极限值和温度特性(TA = 25℃ 除非另有规定)

Maximum Ratings TR1 (Ratings at 25℃ ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	V
Emitter -Base Voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	℃/W

电特性 (TA = 25℃ 除非另有规定)

Electrical Characteristics of TR1(NPN) (Ratings at 25℃ ambient temperature unless otherwise specified).

参数 **Parameter**	符号 **Symbols**	测试条件 **Test Condition**	界限 **Limits**			单位 **Unit**
			Min	**Typ**	**Max**	
Collector-base breakdown voltage	**$V_{(BR)CBO}$**	I_C=10uA, I_E=0	50			V
Collector-emitter breakdown voltage	**$V_{(BR)CEO}$**	I_C=10mA, I_B=0	45			V
Emitter-base breakdown voltage	**$V_{(BR)EBO}$**	I_E=1uA, I_C=0	6			V
Collector cut-off current	**I_{CBO}**	V_{CB}=30V, I_E=0			15	nA
Emitter cut-off current	**I_{EBO}**	V_{EB}=5V, I_C=0			15	nA
DC current gain	h_{FE}	V_{CE}=5V, I_C=2mA	200		450	
Collector-emitter saturation voltage	**$V_{CE(sat)}$**	I_C=10mA, I_B=0.5mA			0.	V
		I_C=100mA, I_B=5mA			250.	V
Base-emitter saturation voltage	**$V_{BE(sat)}$**	I_C=10mA, I_B=0.5mA		0.7	60	V
		I_C=100mA, I_B=5mA		0.9		V
Base-emitter voltage	**$V_{BE(on)}$**	V_{CE}=5V, I_C=2mA	0.58		0.70	V
		V_{CE}=5V, I_C=10mA			0.72	V
Transition frequency	**f_T**	V_{CE}=5V, I_C=10mA,f=100MHz	100			MHz
Collector output capacitance	**Cob**	V_{CB}=10V, I_E=0, f=1MHz			6	pF
Noise figure	**NF**	V_{CE}=5V, I_C=0.2mA, f=1kHz, Rg=2KΩ, △f=200MHz			10	dB

*Pulse test: pulse width≤300us,duty cycle≤2.0%

极限值和温度特性(T_A = 25℃ 除非另有规定)

Maximum Ratings TR2 (Ratings at 25℃ ambient temperature unless otherwise specified.)

参数 Parameters	符号 Symbol	数值 Value	单位 Unit
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_C	-100	mA
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature	Tstg	-55-+150	℃
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	℃/W

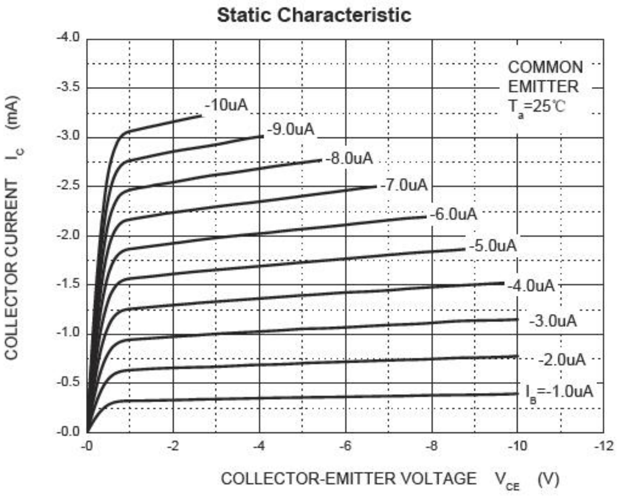
电特性 (T_A = 25℃ 除非另有规定)

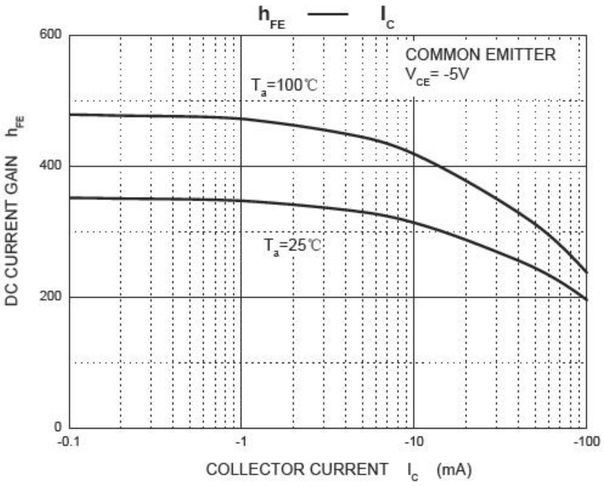
Electrical Characteristics of TR2 (PNP) (Ratings at 25℃ ambient temperature unless otherwise specified).

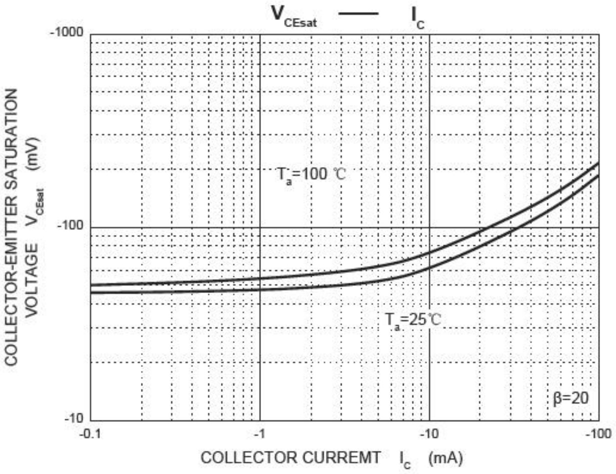
参数 **Parameter**	符号 **Symbols**	测试条件 **Test Condition**	界限 **Limits**			单位 **Unit**
			Min	**Typ**	**Max**	
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=-10uA, I_E=0	-50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA, I_B=0	-45			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-1uA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-30V, I_E=0			-15	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V, I_C=0			-15	nA
DC current gain	h_{FE}	V_{CE}=-5V, I_C=-2mA	220		475	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-0.5mA			-0.30	V
		I_C=-100mA, I_B=-5mA			-0.65	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-10mA, I_B=-0.5mA		-0.7		V
		I_C=-100mA, I_B=-5mA			-0.95	V
Base-emitter voltage	$V_{BE(on)}$	V_{CE}=-5V, I_C=-2mA	-0.60		-0.75	V
		V_{CE}=-5V, I_C=-10mA			-0.82	V
Transition frequency	f_T	V_{CE}=-5V, I_C=-10mA,f=100MHz	100			MHz
Collector output capacitance	**Cob**	V_{CB}=-10V, I_E=0, f=1MHz			6	pF
Noise figure	**NF**	V_{CE}=-5V, I_C=-0.2mA, f=1kHz, Rg=2KΩ, △f=200MHz			10	dB

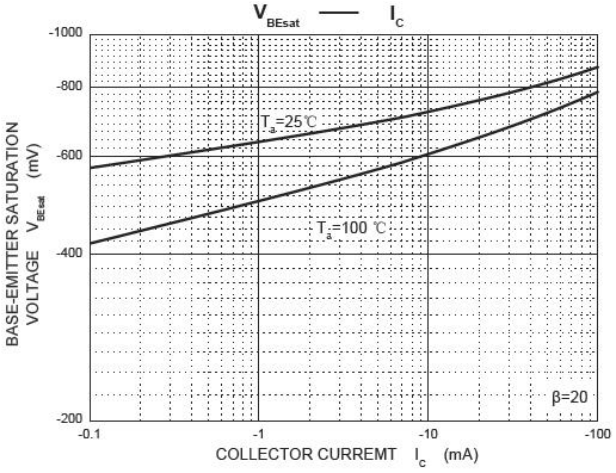
*Pulse test: pulse width≤300us,duty cycle≤2.0%

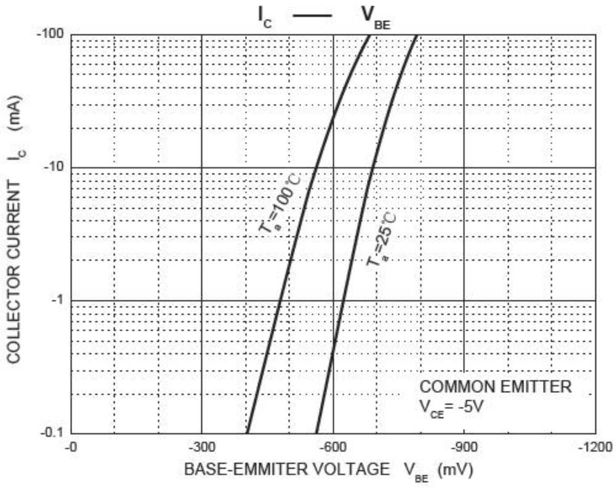
Typical characteristics

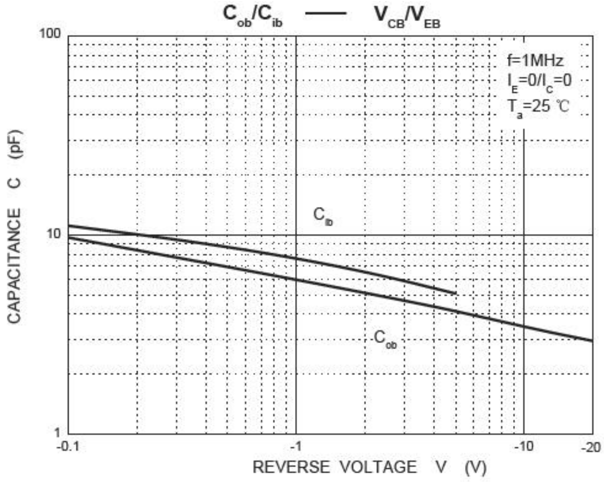


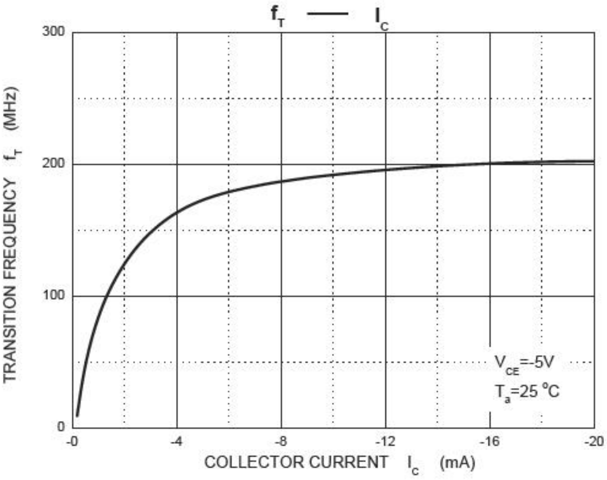


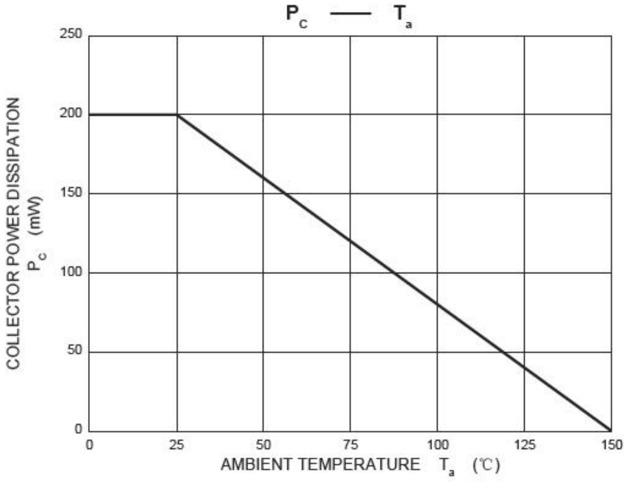




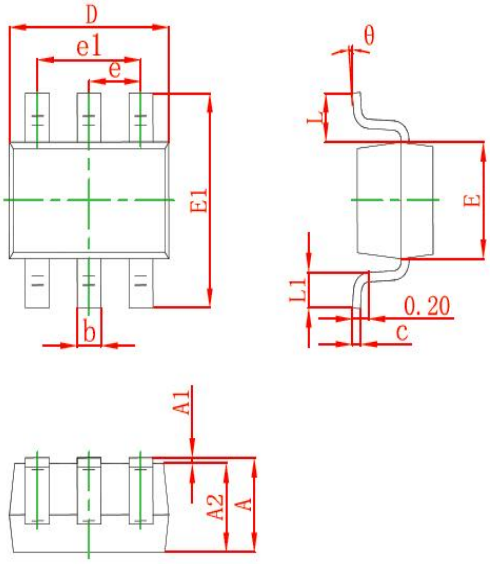








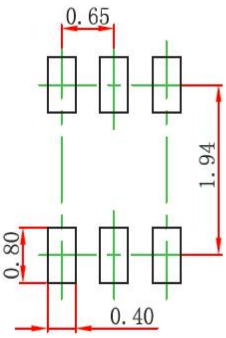
SOT-363 PACKAGE OUTLINE Plastic surface mounted package



Symbol	Dimensions In Millimeters	
	Min	Max
A	0.900	1.100
A1	0.000	0.100
A2	0.900	1.000
b	0.150	0.350
c	0.100	0.150
D	2.000	2.200
E	1.150	1.350
E1	2.150	2.400
e	0.650 TYP	
e1	1.200	1.400
L	0.525 REF	
L1	0.260	0.460
θ	0°	8°

焊盘设计参考Precautions: PCB Design

Recommended land dimensions for SOT-363 diode. Electrode patterns for PCBs



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

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