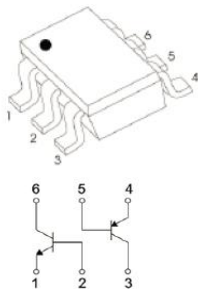


SOT-363

Marking: PJ

Features

- Epitaxial Die Construction
- Two isolated NPN/PNP(BC846B+BC856B) Transistors in one package

Mechanical Data

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

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

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	80	V
Collector-Emitter Voltage	V_{CEO}	65	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	°C
Storage Temperature	T_{stg}	-55-+150	°C
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	°C/W

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

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	80			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=10mA, I_B=0$	65			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=1\mu A, I_C=0$	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	C_{ob}	$V_{CB}=10V, I_E=0, f=1MHz$			6	pF
Noise figure	NF	$V_{CE}=5V, I_C=0.2mA, f=1kHz, R_g=2K\Omega, \Delta f=200MHz$			10	dB

*Pulse test: pulse width $\leq 300\mu s$, duty cycle $\leq 2.0\%$

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

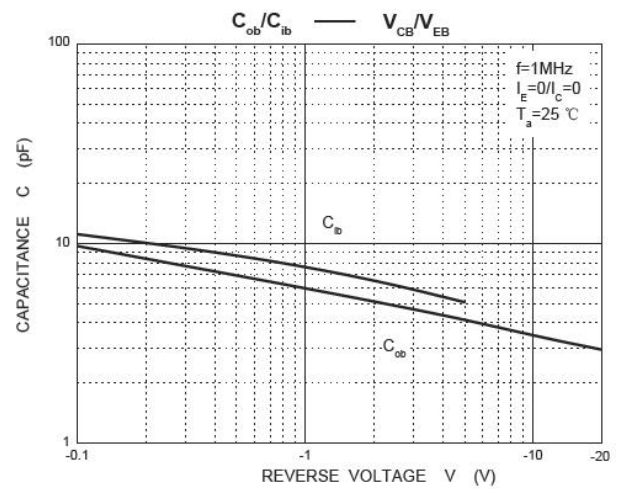
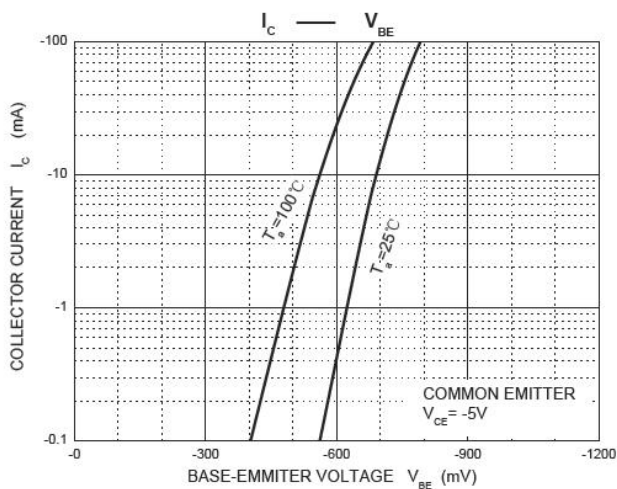
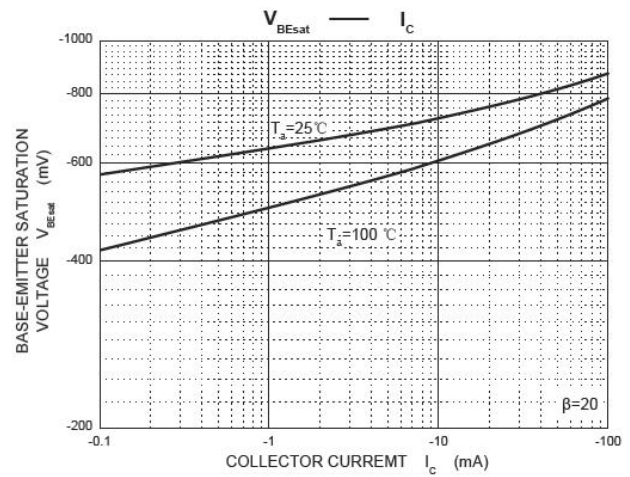
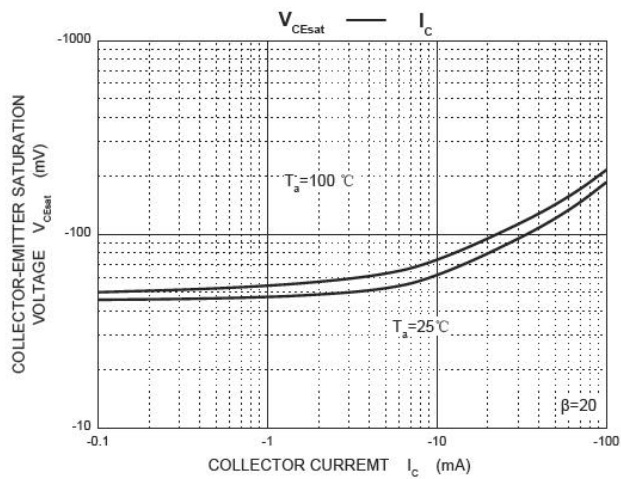
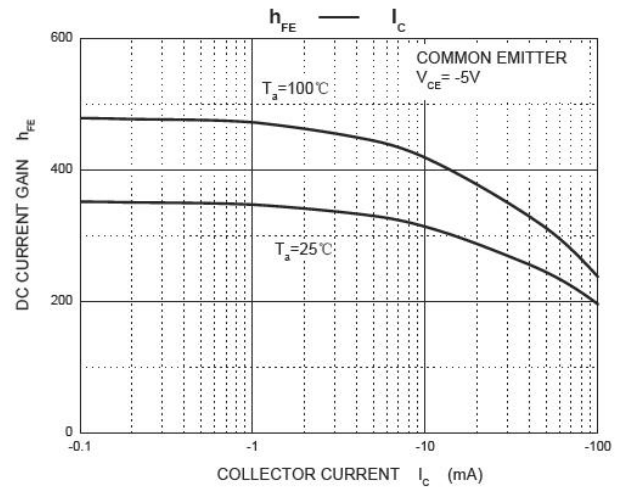
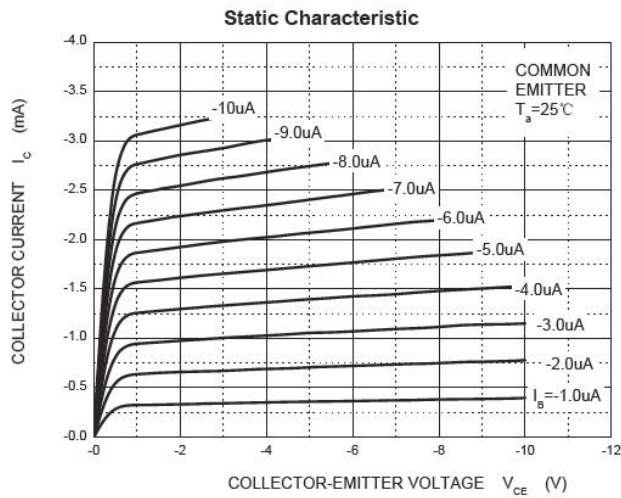
Parameters	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-80	V
Collector-Emitter Voltage	V _{CEO}	-65	V
Emitter -Base Voltage	V _{EBO}	-6	V
Collector Current-Continuous	I _c	-100	mA
Collector Power Dissipation	P _c	200	mW
Junction Temperature	T _j	150	°C
Storage Temperature	T _{stg}	-55-+150	°C
Thermal resistance From junction to ambient	R _{θJA}	625	°C/W

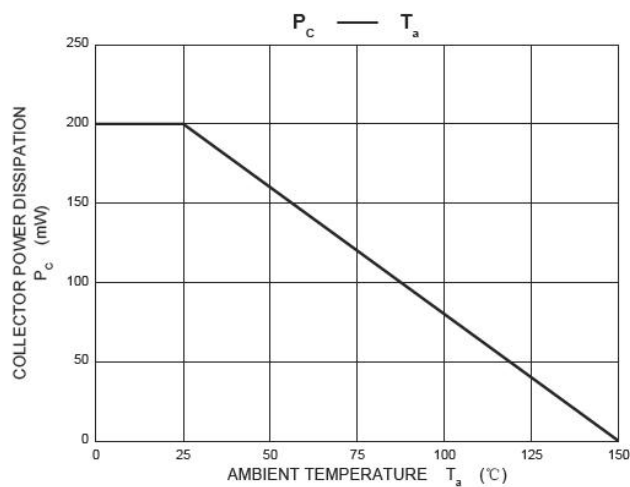
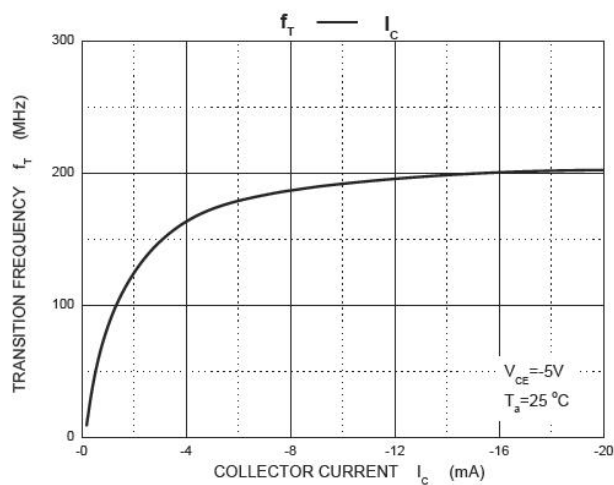
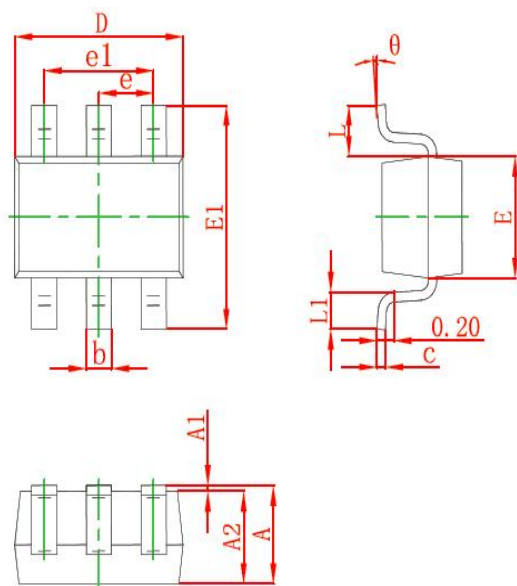
Electrical Characteristics of TR2 (PNP) (Ratings at 25°C ambient temperature unless otherwise specified).

Parameter	Symbols	Test Condition	Limits			Unit
			Min	Typ	Max	
Collector-base breakdown voltage	V(BR)CBO	I _C =-10μA, I _E =0	-80			V
Collector-emitter breakdown voltage	V(BR)CEO	I _C =-10mA, I _B =0	-65			V
Emitter-base breakdown voltage	V(BR)EBO	I _E =-1μA, 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	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	C _{ob}	V _{CB} =-10V, I _E =0, f=1MHz			6	pF
Noise figure	N _F	V _{CE} =-5V, I _C =-0.2mA, f=1kHz, R _g =2KΩ, Δf=200MHz			10	dB

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

Typical characteristics

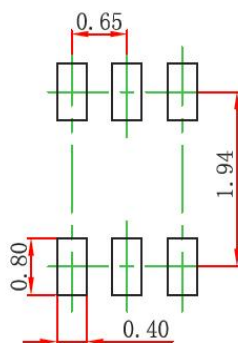
Typical characteristics



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°

Precautions: PCB Design

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



Note:

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

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