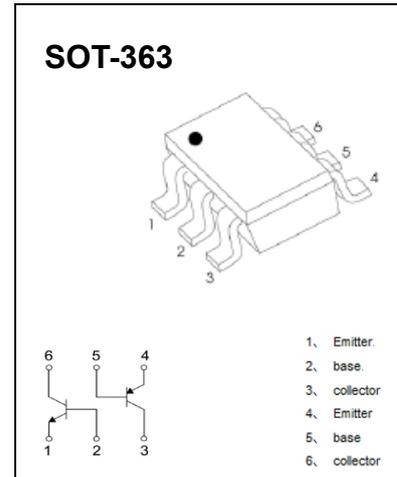


FEATURES

- Two isolated NPN/PNP Transistors in one package
- Surface mount package ideally Suited for Automatic Insertion
- Compliant to Halogen-free

MAKING: PJ



MAXIMUM RATINGS TR1 ($T_a=25^\circ\text{C}$ unless otherwise noted)

Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=10\mu\text{A}, I_E=0$	80
Collector-Emitter Voltage	V_{CEO}	V	$I_C=10\text{mA}, I_B=0$	65
Emitter-Base Voltage	V_{EBO}	V	$I_E=10\mu\text{A}, I_C=0$	6
Collector Current	I_C	mA		100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature	T_{stg}	$^\circ\text{C}$		-55 to +150

CHARACTERISTICS of TR1 (NPN Transistor) ($T_a=25^\circ\text{C}$ unless otherwise specified)

Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=10\mu\text{A}, I_E=0$	80		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=10\text{mA}, I_B=0$	65		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=10\mu\text{A}, I_C=0$	6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=50\text{V}, I_E=0$			15
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB}=5\text{V}, I_C=0$			100
DC current gain	h_{FE}		$V_{CE}=5\text{V}, I_C=2\text{mA}$	200		450
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.1
			$I_C=100\text{mA}, I_B=5\text{mA}$			0.3
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=10\text{mA}, I_B=0.5\text{mA}$			0.85
			$I_C=100\text{mA}, I_B=5\text{mA}$			1.1
Base-emitter Voltage	V_{BE}	V	$V_{CE}=5\text{V}, I_C=2\text{mA}$			0.7
			$V_{CE}=5\text{V}, I_C=10\text{mA}$			0.77
Transition frequency	f_T	MHz	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		

MAXIMUM RATINGS TR2 ($T_a=25^\circ\text{C}$ unless otherwise noted)

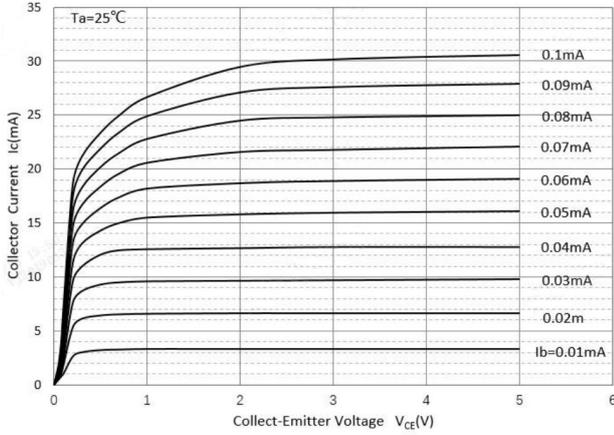
Item	Symbol	Unit	Conditions	Value
Collector-Base Voltage	V_{CBO}	V	$I_C=-10\mu\text{A}, I_E=0$	-80
Collector-Emitter Voltage	V_{CEO}	V	$I_C=-10\text{mA}, I_B=0$	-65
Emitter-Base Voltage	V_{EBO}	V	$I_E=-10\mu\text{A}, I_C=0$	-6
Collector Current	I_C	mA		-100
Collector Power Dissipation	P_C	mW		200
Junction Temperature	T_j	$^\circ\text{C}$		-55 to +150
Storage Temperature	T_{stg}	$^\circ\text{C}$		-55 to +150

CHARACTERISTICS of TR2 (PNP Transistor) ($T_a=25^\circ\text{C}$ unless otherwise specified)

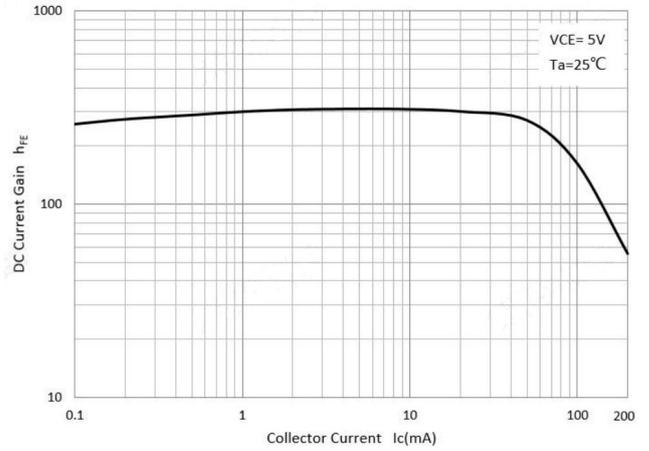
Item	Symbol	Unit	Conditions	Min	TYP	Max
Collector-base breakdown voltage	V_{CBO}	V	$I_C=-10\mu\text{A}, I_E=0$	-80		
Collector-emitter breakdown voltage	V_{CEO}	V	$I_C=-10\text{mA}, I_B=0$	-65		
Emitter-base breakdown voltage	V_{EBO}	V	$I_E=-10\mu\text{A}, I_C=0$	-6		
Collector-Base cut-off current	I_{CBO}	nA	$V_{CB}=-50\text{V}, I_E=0$			-15
Emitter-Base Cut-off current	I_{EBO}	nA	$V_{EB}=-6\text{V}, I_C=0$			-100
DC current gain	h_{FE}		$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	200		450
Collector-emitter saturation voltage	$V_{CE(sat)}$	V	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.3
			$I_C=-100\text{mA}, I_B=-5\text{mA}$			-0.65
Baser-emitter saturation voltage	$V_{BE(sat)}$	V	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$			-0.85
			$I_C=-100\text{mA}, I_B=-5\text{mA}$			-1.1
Base-emitter Voltage	V_{BE}	V	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$			-0.75
			$V_{CE}=-5\text{V}, I_C=-10\text{mA}$			-0.82
Transition frequency	f_T	MHz	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	100		

Typical Characteristics (TR1 NPN Transistor)

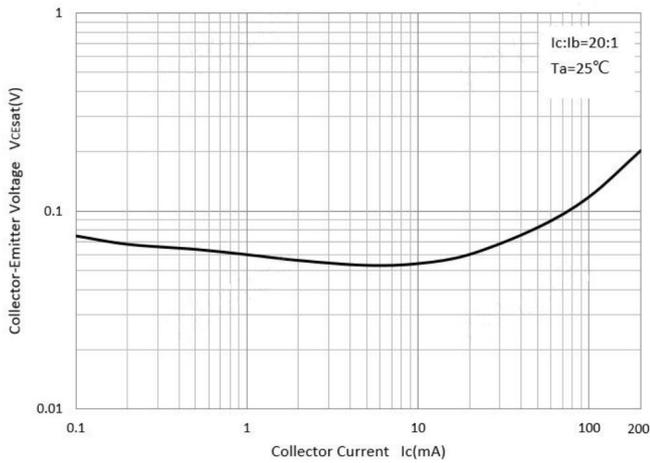
Static Characteristic



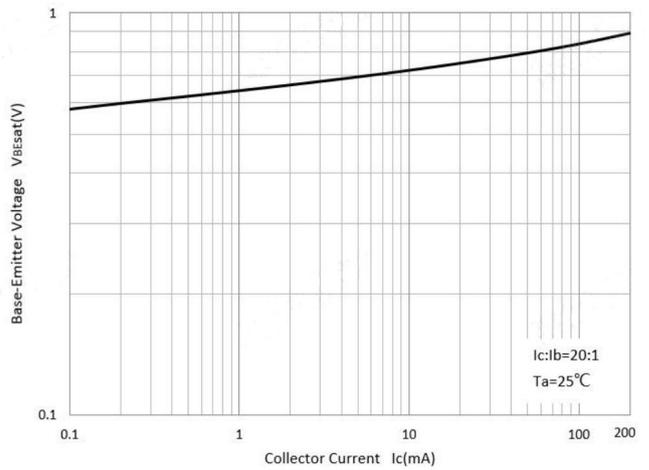
DC Current Gain



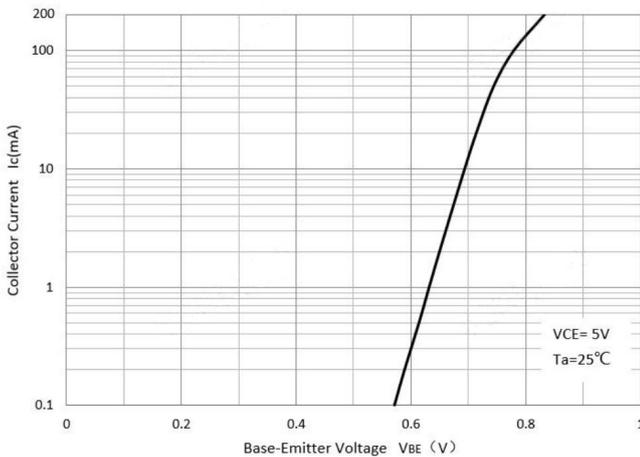
Collector-Emitter Saturation Voltage



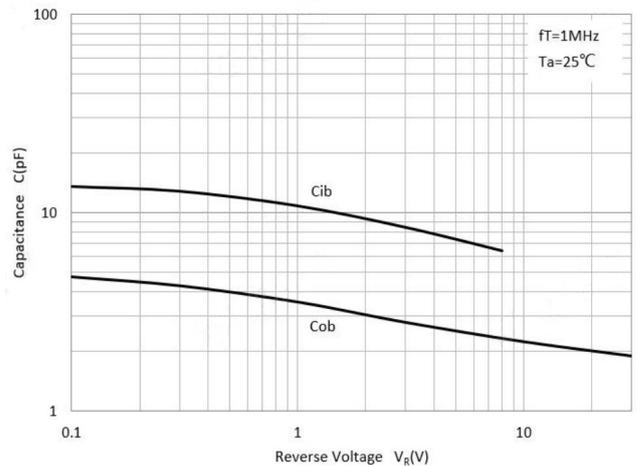
Base-Emitter Saturation Voltage



Base-Emitter On Voltage

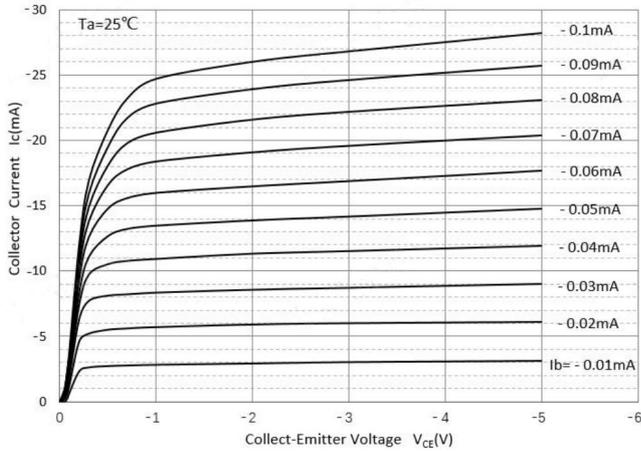


$C_{ob}/C_{ib}-V_{CB}/V_{EB}$

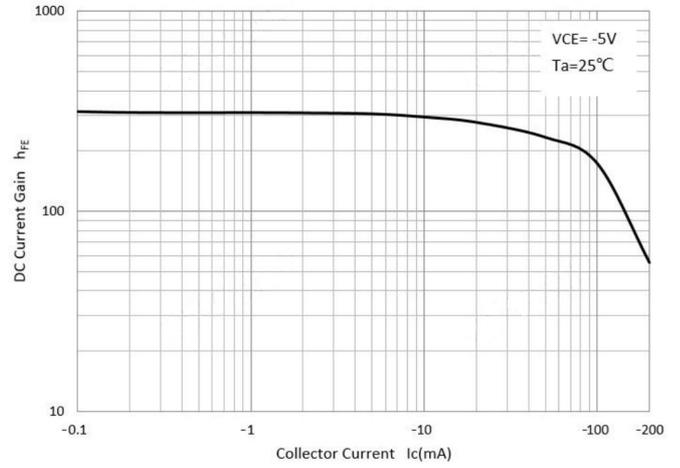


Typical Characteristics (TR2 PNP Transistor)

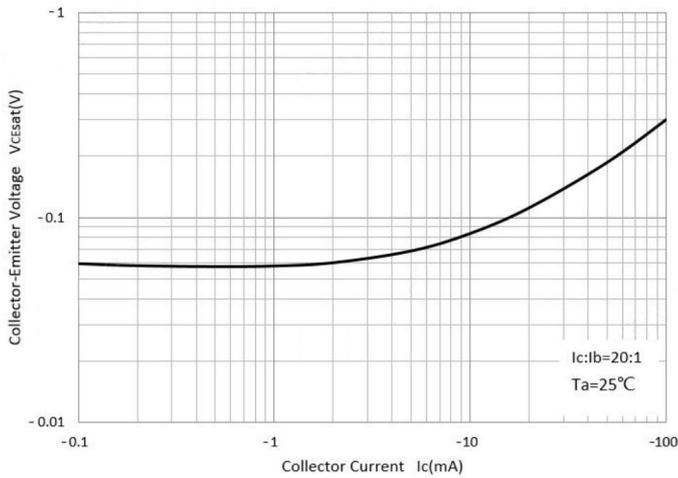
Static Characteristic



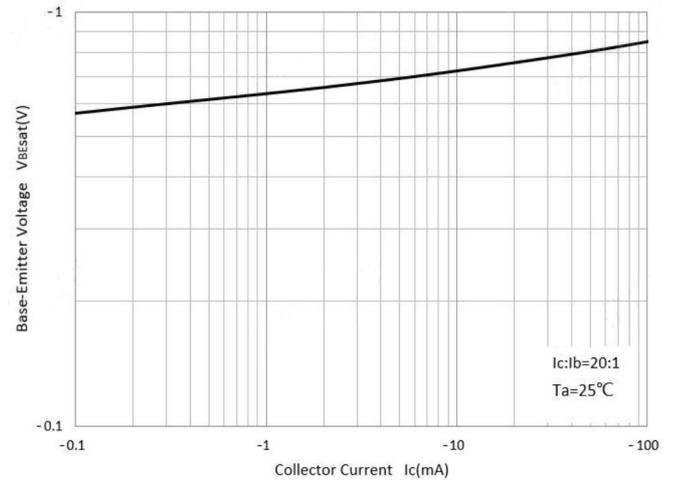
DC Current Gain



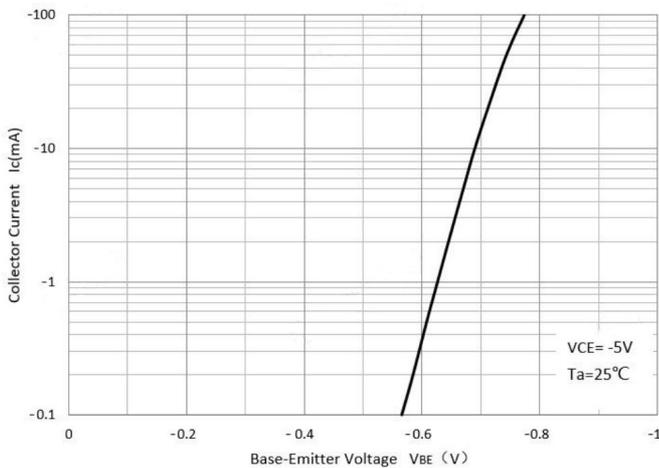
Collector-Emittor Saturation Voltage



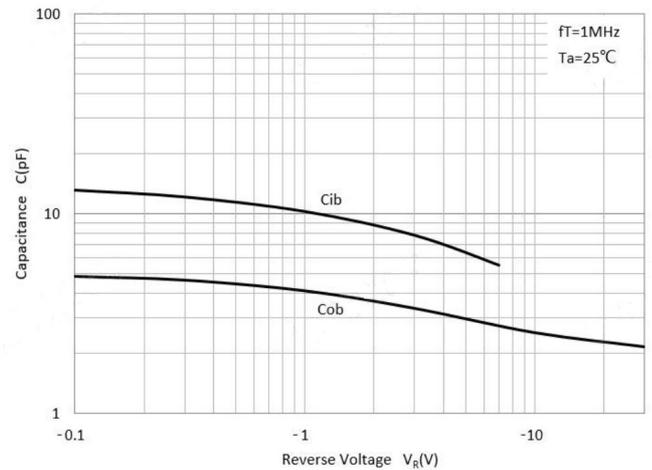
Base-Emittor Saturation Voltage



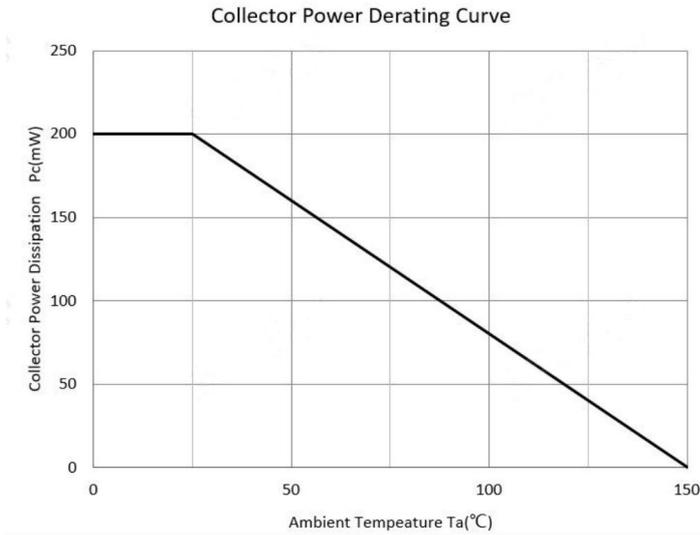
Base-Emittor On Voltage



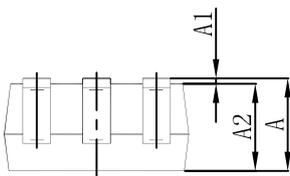
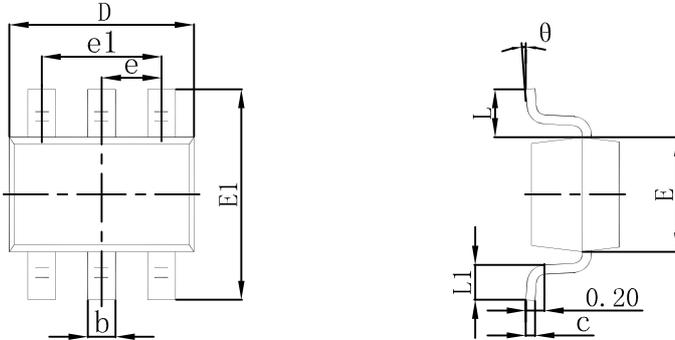
Cob/Cib- V_{CB}/V_{EB}



Typical Characteristics

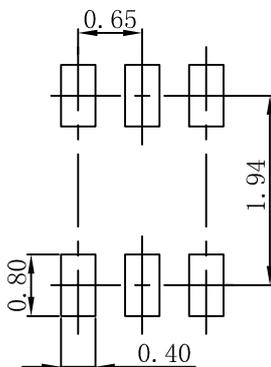


SOT-363 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.050	0.250	0.002	0.010
D	1.800	2.200	0.071	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

SOT-363 Suggested Pad Layout



Note:

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