

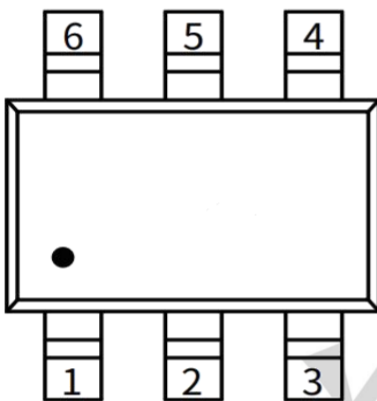
Product Summary

- $BVC_{BO} \geq -50V(I_C=-100\mu A)$
- $BVCE_{O} \geq -45V(I_C=-10mA)$
- $I_C = -100mA$

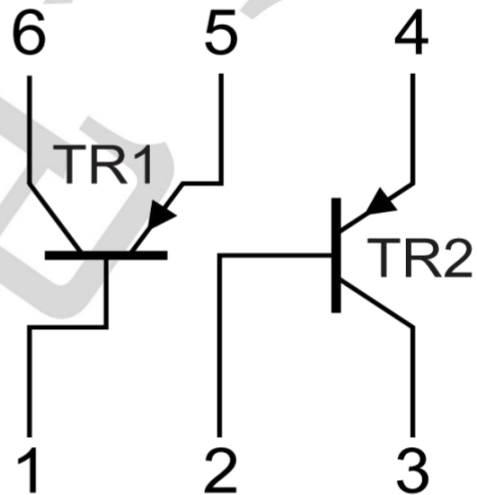
Features

- Consumer electronics
- Voltage switching
- High Speed Switching

Circuit diagram and pin information



SOT-363



Absolute Maximum Ratings

($T_A=25^\circ C$ unless otherwise specified)

PARAMETER	SYMBOL	LIMIT	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-45	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current (DC)	I_C	-100	mA
Collector Peak Current (Pulse) Single pulse, $P_w \leq 380\mu s$, Duty $\leq 2\%$	I_{CM}	-200	mA
Power Total Dissipation @ $T_A=25^\circ C$	P_D	0.2	W
Maximum Operating Junction Temperature	T_J	+150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

Note:1.Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for collector 1 cm².

Electrical Characteristics

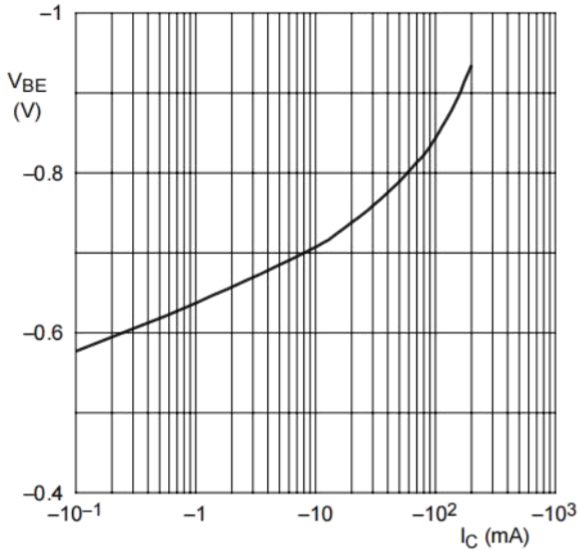
(TA=25°C unless otherwise specified)

PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static (Note 1)						
Collector-Base Breakdown Voltage	$I_C = -100\mu A, I_E = 0$	BV_{CBO}	-50	--	--	V
Collector-Emitter Breakdown Voltage	$I_C = -10mA, I_B = 0$	BV_{CEO}	-45	--	--	V
Emitter-Base Breakdown Voltage	$I_E = -100\mu A, I_C = 0$	BV_{EBO}	-6	--	--	V
Collector Cutoff Current	$V_{CB} = -50V, I_E = 0$	I_{CBO}	--	--	-0.1	μA
Emitter Cutoff Current	$V_{EB} = -5V, I_C = 0$	I_{EBO}	--	--	-0.1	μA
Collector-Emitter Saturation Voltage	$I_C = -10mA, I_B = -0.5mA$	$V_{CE(SAT)1}$	--	--	-0.2	V
	$I_C = -100mA, I_B = -5mA$	$V_{CE(SAT)2}$	--	--	-0.4	V
DC Current Transfer Ratio	$V_{CE} = -5V, I_C = -10\mu A$	h_{FE1}	--	250	--	
	$V_{CE} = -5V, I_C = -2mA$	h_{FE2}	200	300	450	
Dynamic (Note 2)						
Transition Frequency	$V_{CE} = -5V, I_C = -10mA, f = 100MHz$	f_T	100	180	--	MHz
Collector Output Capacitance	$V_{CB} = -10V, I_E = 0A, f = 1MHz$	C_C	--	--	1.5	pF
Emitter Capacitance	$V_{EB} = -0.5V, I_E = 0A, f = 1MHz$	C_e	--	11	--	pF
noise figure	$V_{CE} = -5V;$ $I_C = -0.2mA;$ $R_S = 2k\Omega;$ $f = 10Hz$ to $15.7kHz$	NF	--	1.6	--	dB

Note:

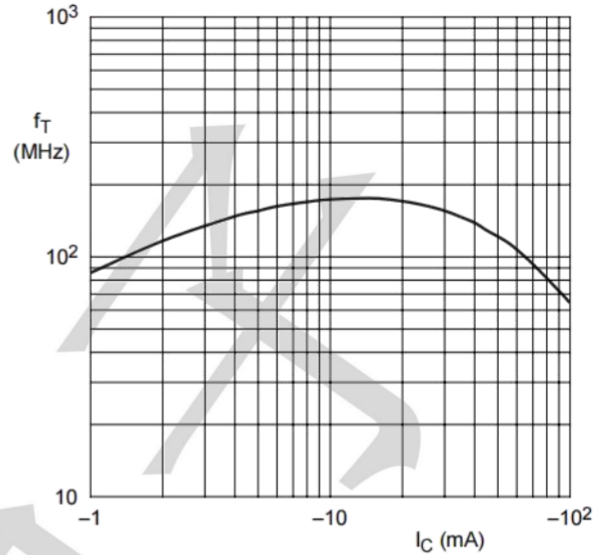
- 1.Pulse test: $\leq 380\mu s$, duty cycle $\leq 2\%$
- 2.For DESIGN AID ONLY, not subject to production testing

Typical Performance Characteristics(TA=25°C)



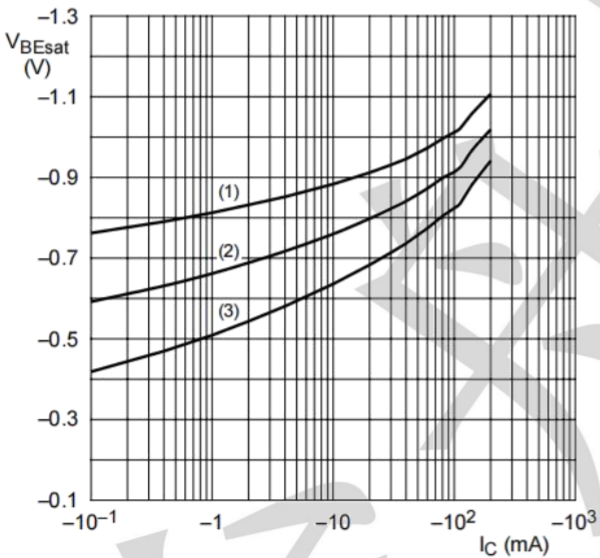
$V_{CE} = -5\text{ V}; T_{amb} = 25\text{ }^\circ\text{C}$

Base-emitter voltage as a function of collector current; typical values



$V_{CE} = -5\text{ V}; T_{amb} = 25\text{ }^\circ\text{C}$

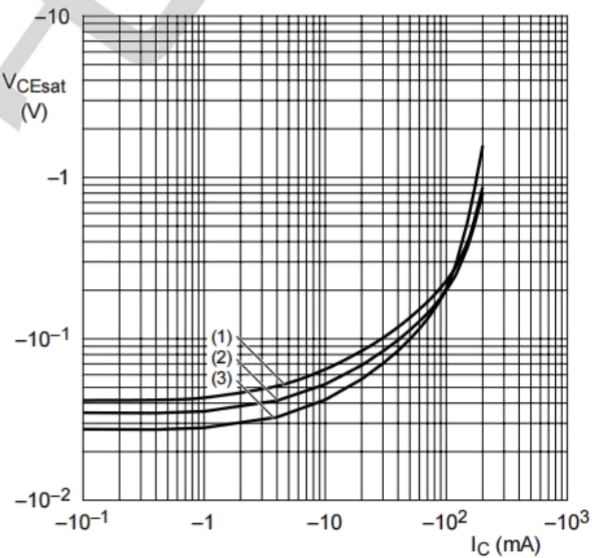
Transition frequency as a function of collector current; typical values



$I_C/I_B = 20$

- (1) $T_{amb} = -55\text{ }^\circ\text{C}$
- (2) $T_{amb} = 25\text{ }^\circ\text{C}$
- (3) $T_{amb} = 100\text{ }^\circ\text{C}$

Base-emitter saturation voltage as a function of collector current; typical values



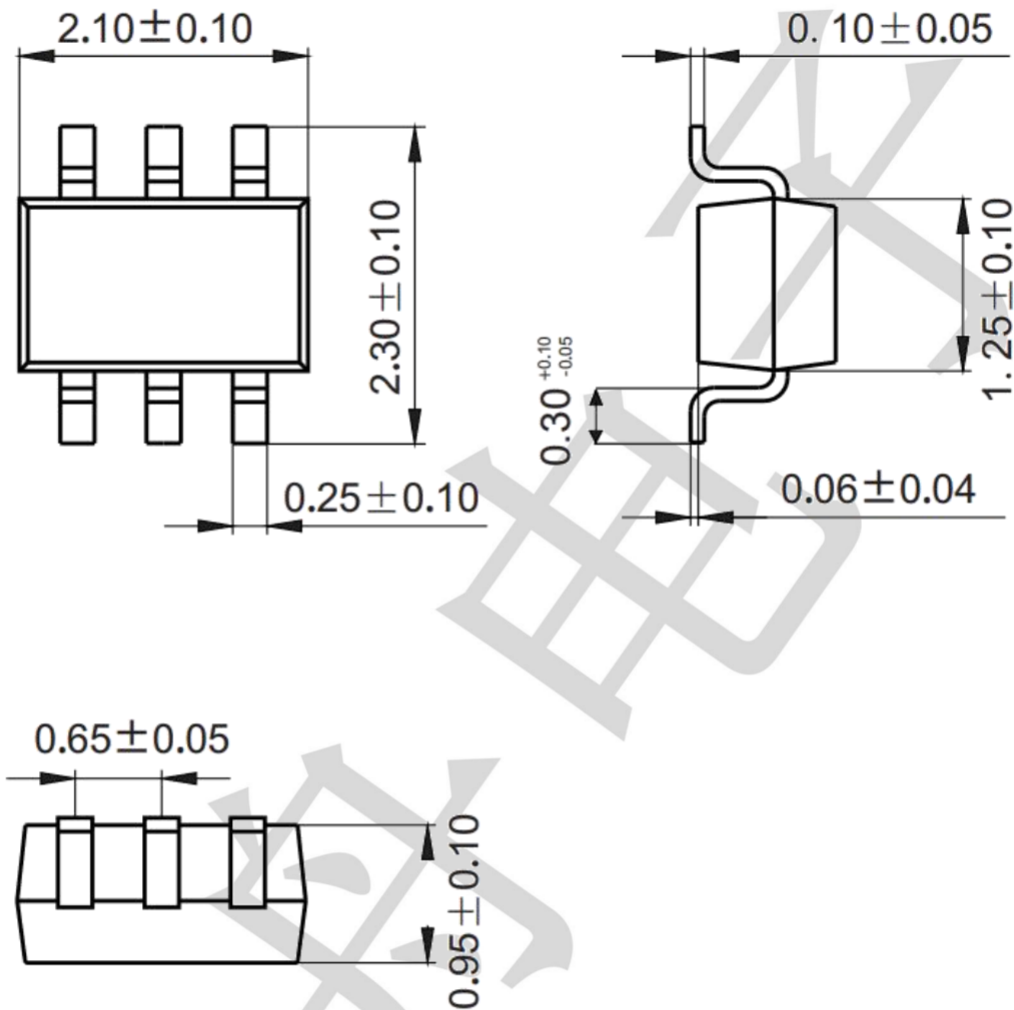
$I_C/I_B = 20$

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- (2) $T_{amb} = 25\text{ }^\circ\text{C}$
- (3) $T_{amb} = -55\text{ }^\circ\text{C}$

Collector-emitter saturation voltage as a function of collector current; typical values

Package information (Unit: mm)

SOT-363



Mounting Pad Layout (unit: mm)

