General Purpose NPN Silicon Transistors

Features

- ✧ High hFE 300
- ✧ NPN switch transistor
- ✧ Low Cob

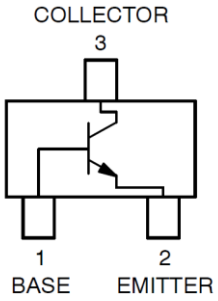
V_{CBO}	75V
I_C	600mA
f_T	300M (Min.)

Applications

- ✧ Switching Applications

Mechanical Data

- ✧ UL Flame Rating : UL94V-0
- ✧ Reel Size : 7 inch
- ✧ RoHS/WEEE Compliant



Circuit Diagram

SOT-323

Absolute Maximum Rating (Ta=25°C, unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector to Base Voltage	V_{CBO}	75	V
Collector to Emitter Voltage	V_{CEO}	40	V
Emitter to Base Voltage	V_{EBO}	6	V
Collector Current DC	I_C	600	mA
Collector Power Dissipation	P_D	200	mW
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

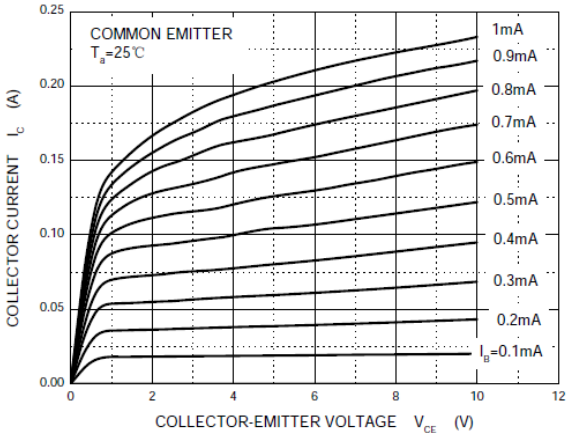
Electronics Characteristics (Ta=25°C, unless otherwise noted)

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	**$V_{(BR)CBO}$**	I_C=10uA, I_E=0	75		V
Collector-emitter breakdown voltage	**$V_{(BR)CEO}$**	I_C=10mA, I_B=0	40		V
Emitter-base breakdown voltage	**$V_{(BR)EBO}$**	I_E=10uA, I_C=0	6		V
Collector cut-off current	**I_{CBO}**	V_{CB}=70V, I_E=0		100	nA
Collector cut-off current	**I_{CEO}**	V_{CE}=35V, I_B=0		100	nA
Emitter cut-off current	**I_{EBO}**	V_{EB}=3V, I_C=0		100	nA
DC current gain	$h_{FE(1)}$*	V_{CE}=10V, I_C=150mA	100	300	
	$h_{FE(2)}$*	V_{CE}=10V, I_C=0.1mA	35		
	$h_{FE(3)}$*	V_{CE}=10V, I_C=10mA	75		
	$h_{FE(4)}$*	V_{CE}=10V, I_C=500mA	40		
	$h_{FE(5)}$*	V_{CE}=1V, I_C=150mA	35		
Collector-emitter saturation voltage	**$V_{CE(sat)}$***	I_C=500mA, I_B=50mA		1.00	V
		I_C=150mA, I_B=15mA		0.30	V
Base -emitter saturation voltage	**$V_{BE(sat)}$***	I_C=500mA, I_B=50mA		2.00	V
		I_C=150mA, I_B=15mA		1.20	V
Transition frequency	**f_T**	V_{CE}=20V, I_C=20mA,f=100MHz	300		MHz
Output Capacitance	**Cob**	V_{CB}=10V, I_E=0, f=1MHz		8	pF
Delay time	td	V_{CC}=30V, $V_{BE(off)}$=-0.5V, I_C=150mA, I_{B1}=15mA		10	nS
Rise time	tr			25	nS
Storage time	ts	V_{CC}=30V, I_C=150mA, I_{B1}=I_{B2}=15mA		225	nS
Fall time	tf			60	nS

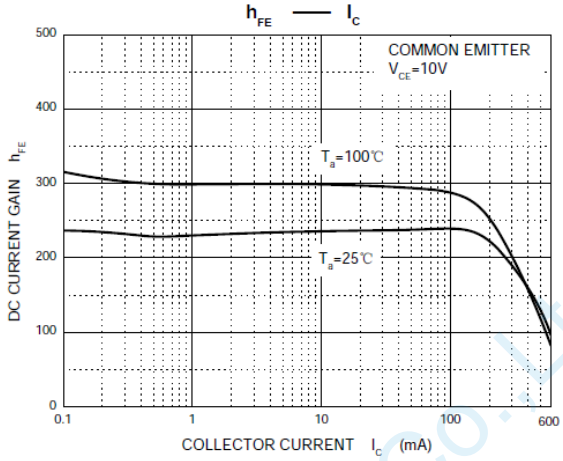
*Pulse test: pulse width≤300us, duty cycle≤2.0%.

Electronics Characteristics (Ta=25°C, unless otherwise noted)

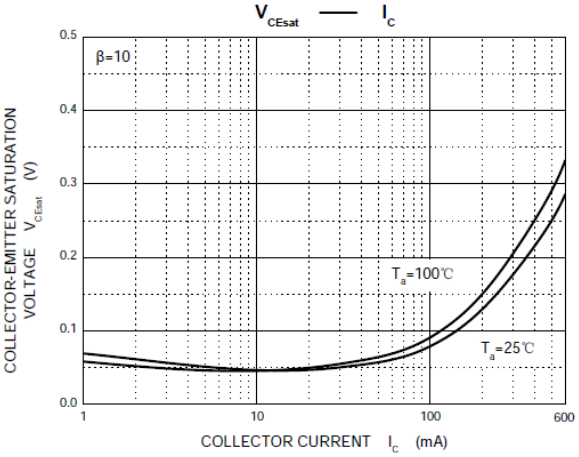
Static Characteristic



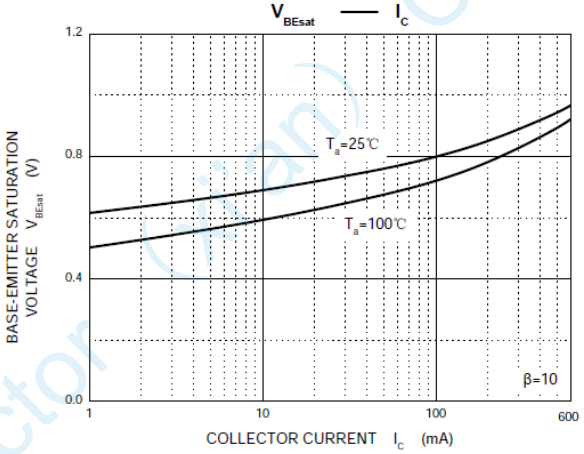
h_{FE} — I_C



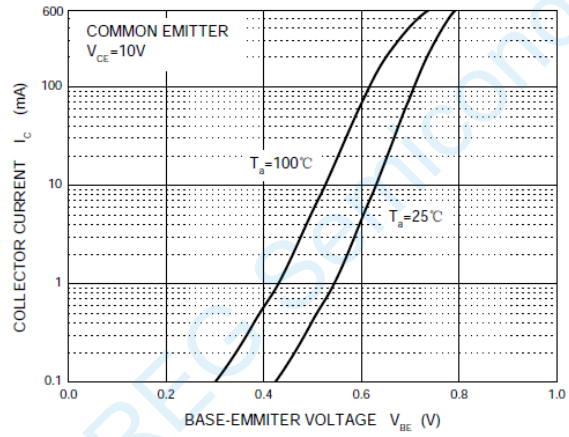
V_{CEsat} — I_C



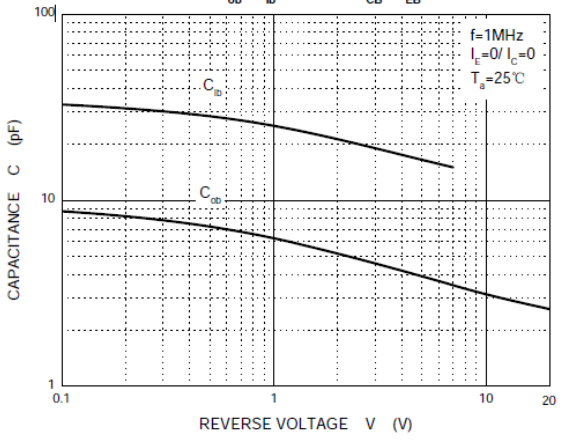
V_{BEsat} — I_C



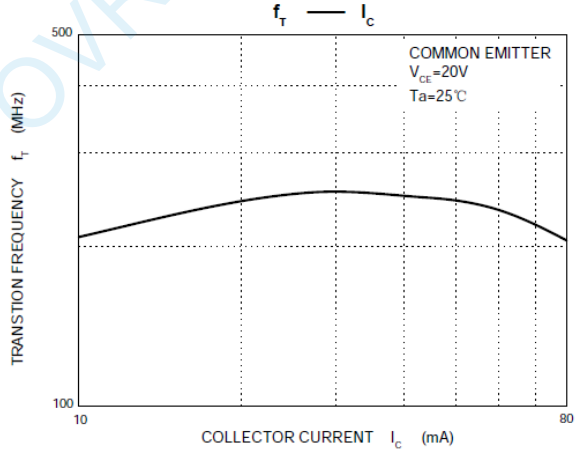
I_C — V_{BE}



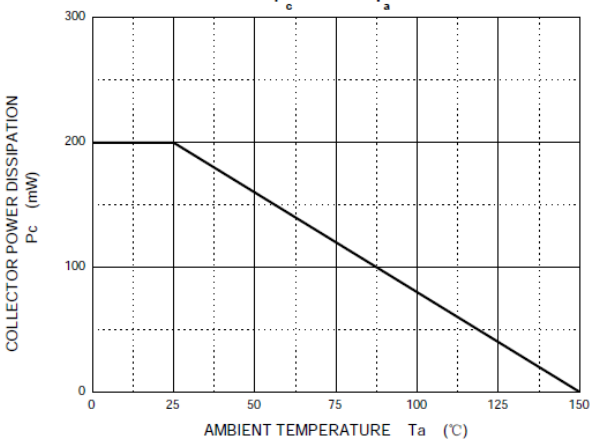
C_{ob} / C_{ib} — V_{CB} / V_{EB}



f_T — I_C

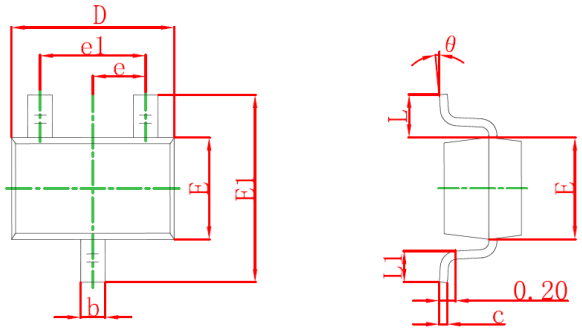


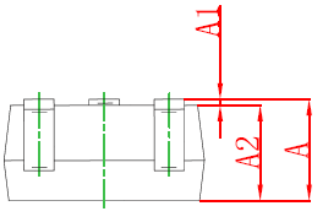
P_c — T_a



Package Information

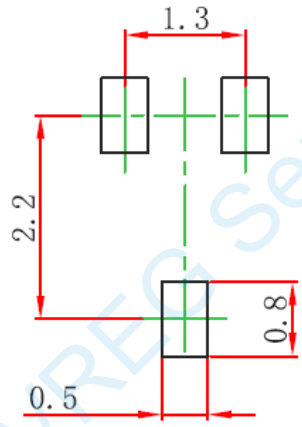
SOT-323





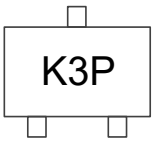
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 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
θ	0°	8°	0°	8°

Recommend PCB Layout



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

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ
OVS2222T3R	GREEN	T/R	7 inch	3k/reel