

-40V PNP SMALL SIGNAL TRANSISTOR

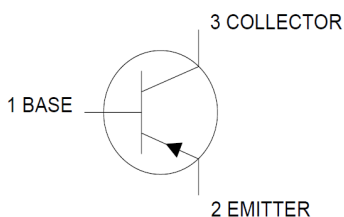
Features

- ✧ Epitaxial Planar Die Construction
- ✧ Totally Lead-Free & Fully RoHS compliant
- ✧ Halogen and Antimony Free
- ✧ PNP

V_{CBO}	-40V
V_{CEO}	-40V
V_{EBO}	-5.0V
I_c	-200mA

Applications

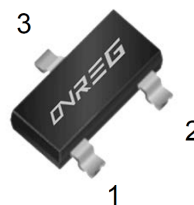
- ✧ Medium Power Amplification and Switching



Circuit Diagram

Mechanical Data

- ✧ Package : SOT523



SOT523

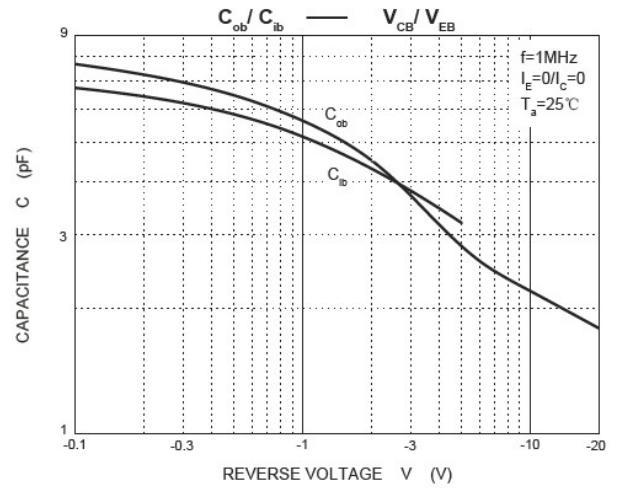
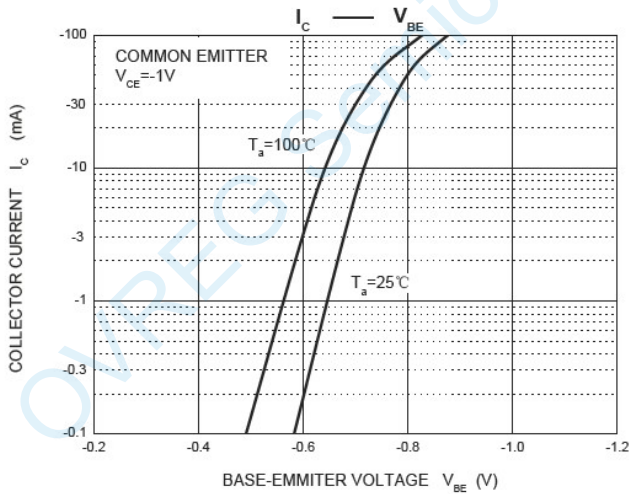
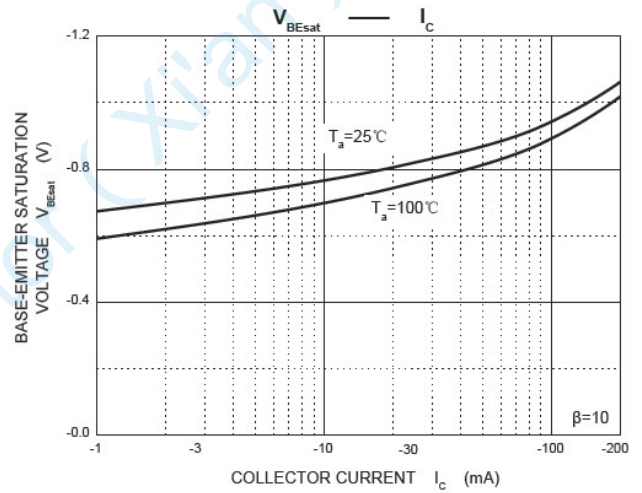
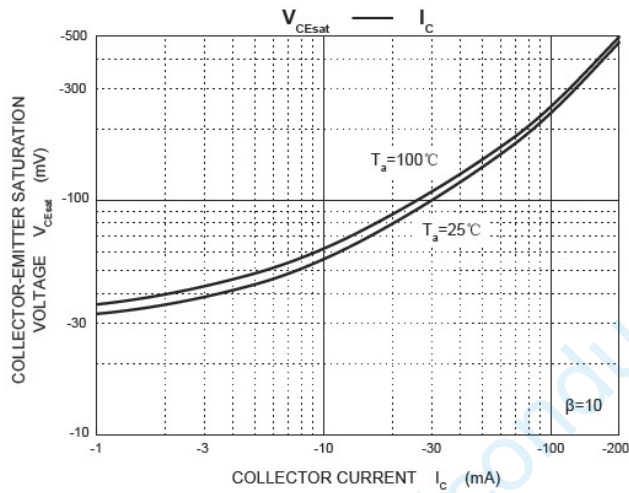
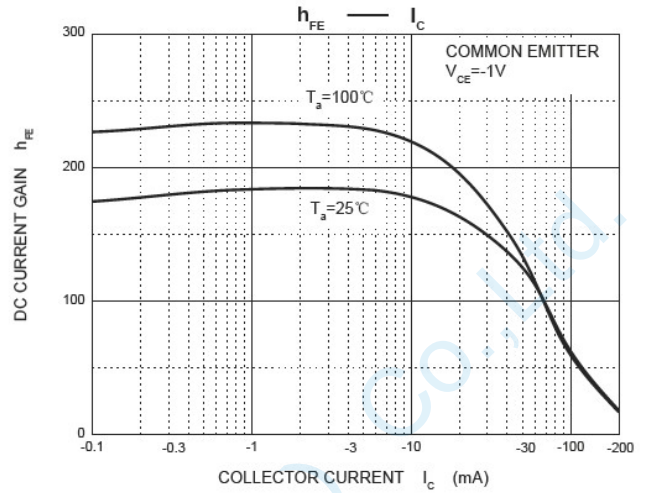
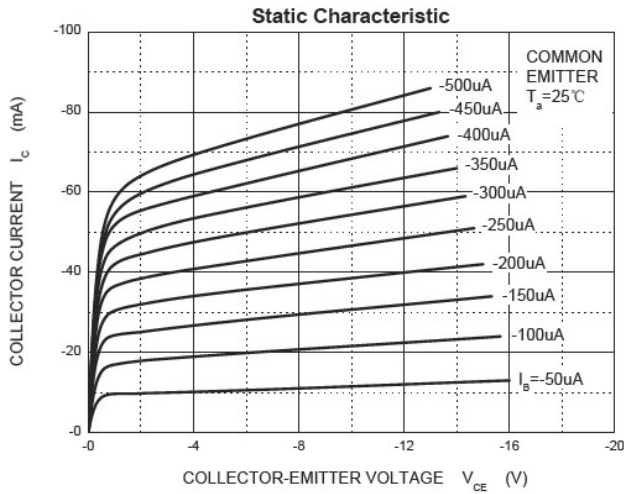
Absolute Maximum Rating ($T_a=25^{\circ}\text{C}$, unless otherwise noted)

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter -Base Voltage	V_{EBO}	-5	V
Collector Current-Continuous	I_c	-200	mA
Collector Power Dissipation	P_c	150	mW
Junction Temperature	T_j	150	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-55-+150	$^{\circ}\text{C}$
Thermal resistance From junction to ambient	$R_{\theta JA}$	833	$^{\circ}\text{C/W}$

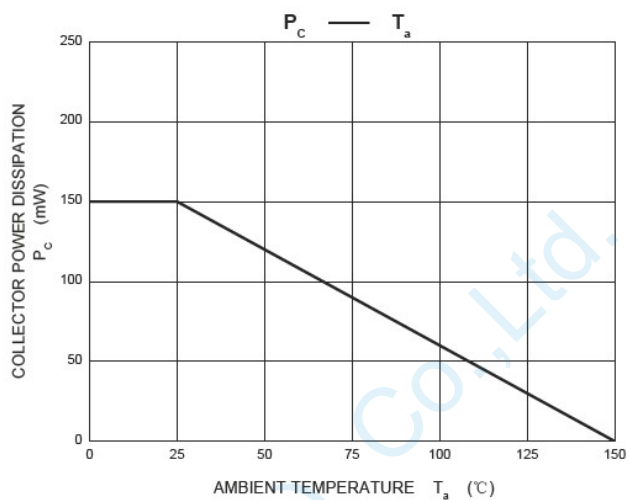
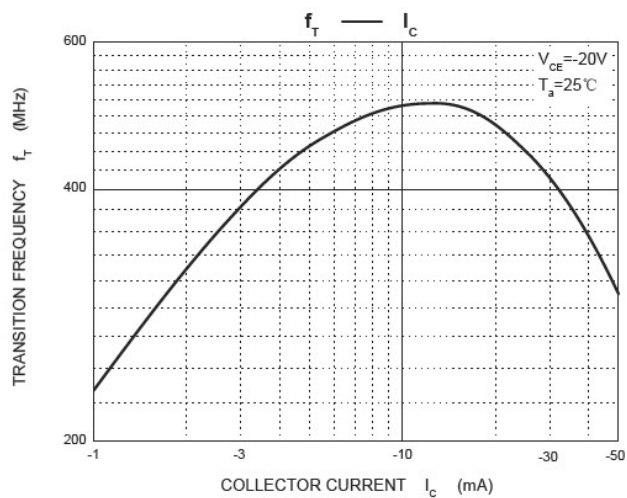
Electronics Characteristics (Ta=25℃, unless otherwise noted)

Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	V(BR)CBO	IC=-10uA, IE=0	-40		V
Collector-emitter breakdown voltage	V(BR)CEO	IC=-1mA, IB=0	-40		V
Emitter-base breakdown voltage	V(BR)EBO	IE=-10uA, IC=0	-5		V
Collector cut-off current	ICBO	VCE=-40V, IE=0		-100	nA
Emitter cut-off current	IEBO	VEB=-5V, IC=0		-100	nA
Collector cut-off current	ICEX	VCE=-30V, VEB(off)=-3V		-50	nA
DC current gain	hFE(1)	VCE=-1V, IC=-0.1mA	60		
	hFE(2)	VCE=-1V, IC=-1mA	80		
	hFE(3)	VCE=-1V, IC=-10mA	100	300	
	hFE(4)	VCE=-1V, IC=-50mA	60		
	hFE(5)	VCE=-2V, IC=-100mA	30		
Collector-emitter saturation voltage	VCE(sat)	IC=-10mA, IB=-1mA		-0.25	V
		IC=-50mA, IB=-5mA		-0.40	V
Base -emitter saturation voltage	VBE(sat)	IC=-10mA, IB=-1mA	-0.65	-0.85	V
		IC=-50mA, IB=-5mA		-0.95	V
Transition frequency	fT	VCE=-20V, IC=-10mA, f=100MHz	250		MHz
Collector output capacitance	Cob	VCE=-5V, IE=0, f=1MHz		4.5	pF
Input capacitance	Cib	VEB=-5V, IE=0, f=1MHz		10	pF
Noise figure	NF	VCE=-5V, IC=-0.1mA		4	dB
Delay time	td	VCC=-3V, VBE(off)=-0.5V, IC=-10mA, IB1=-1mA		35	nS
Rise time	tr			35	nS
Storage time	ts	VCC=-3V, IC=-10mA, IB1=IB2=-1mA		225	nS
Fall time	tf			75	nS

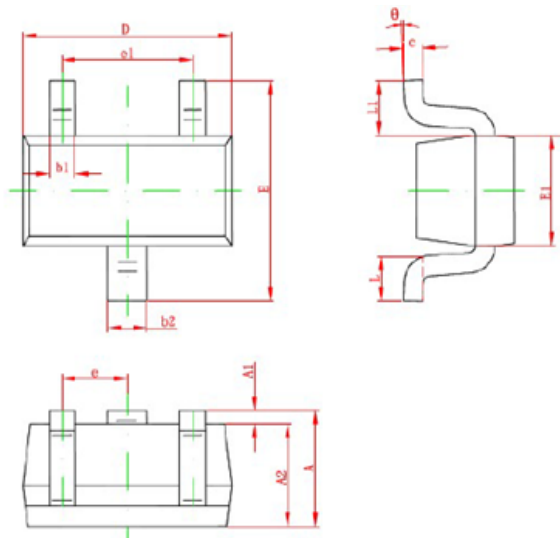
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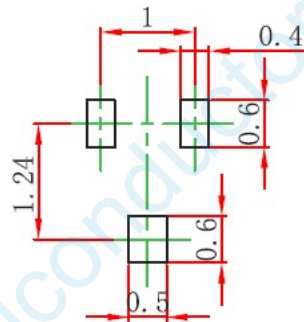


Package information



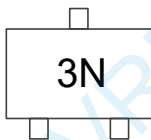
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	1.450	1.750	0.057	0.069
E1	0.700	0.900	0.028	0.035
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.260	0.460	0.010	0.018
L1	0.400 REF.		0.016 REF.	
θ	0°		8°	

Recommend PCB Layout



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

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVS3906ST5R	GREEN	T/R	7 inch	3k/reel	10reel= 30k/box	4boxes=120k/carton