NPN SMALL SIGNAL TRANSISTOR

Features

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

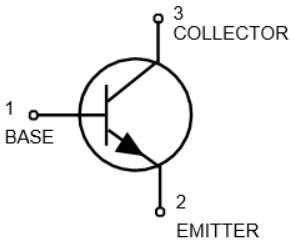
V_{CBO}	60V
V_{CEO}	40V
V_{EBO}	6.0V
I_C	200mA

Applications

✧ Medium Power Amplification and Switching

Mechanical Data

✧ Package： SOT723



Circuit Diagram

SOT723

Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	200	mA
P_C	Collector Power Dissipation	100	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	1250	℃/W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55～+150	℃

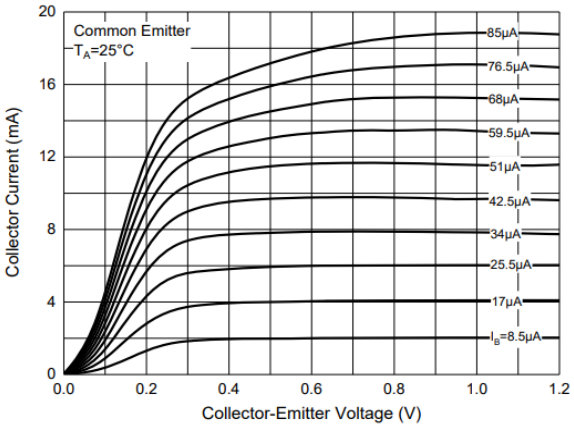
Electrical Characteristics @ 25℃ Unless Otherwise Specified

Symbol	Parameter	Test Conditions	Min	Max	Units
V_{CEO}	Collector-Emitter Breakdown Voltage	I_C=1.0mA, I_B=0	40		V
V_{CBO}	Collector-Base Breakdown Voltage	I_C=10μA, I_E=0	60		V
V_{EBO}	Emitter-Base Breakdown Voltage	I_E=10μA, I_C=0	6		V
I_{CBO}	Collector-Base Cutoff Current	V_{CB}=30V, I_E=0		100	nA
I_{CEX}	Collector- Emitter Cutoff Current	V_{CE}=30V, $V_{EB(OFF)}$=3.0V		50	nA
I_{EBO}	Collector Cutoff Current	V_{EB}=5V, I_C=0		100	nA
$h_{FE(1)}$	DC Current Gain	I_C=0.1mA, V_{CE}=1V	40		
$h_{FE(2)}$	DC Current Gain	I_C=1mA, V_{CE}=1V	70		
$h_{FE(3)}$	DC Current Gain	I_C=10mA, V_{CE}=1V	100	300	
$h_{FE(4)}$	DC Current Gain	I_C=50mA, V_{CE}=1V	60		
$V_{CE(sat)1}$	Collector-Emitter Saturation Voltage	I_C=10mA,I_B=1mA		0.2	V
$V_{CE(sat)2}$	Collector-Emitter Saturation Voltage	I_C=50mA,I_B=5mA		0.3	V
$V_{BE(sat)1}$	Base-Emitter Saturation Voltage	I_C=10mA,I_B=1mA	0.65	0.85	V
$V_{BE(sat)2}$	Base-Emitter Saturation Voltage	I_C=50mA,I_B=5.0mA		0.95	V
f_T	Current Gain-Bandwidth Product	I_C=10mA, V_{CE}=20V,f=100MHz	300		MHz

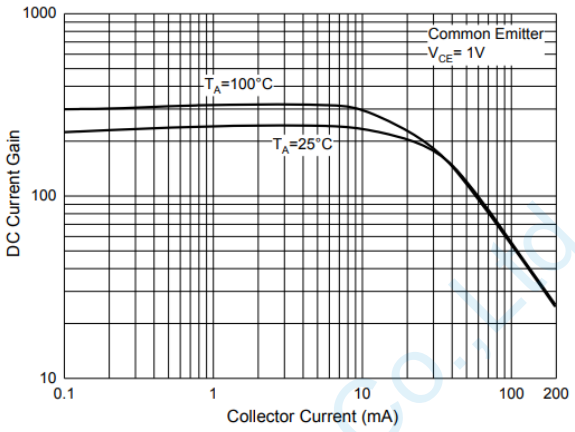
SWITCHING CHARACTERISTICS

Symbol	Parameter	Test Conditions	Min	Max	Units
td	Delay Time	V_{CC}=3.0V,$V_{BE(off)}$=-0.5V		35	ns
tr	Rise Time	I_C=10mA,I_{B1}=1.0mA		35	ns
ts	Storage Time	V_{CC}=3.0V,I_C=10m		200	ns
tf	Fall Time	A I_{B1}=I_{B2}=1.0mA		50	ns

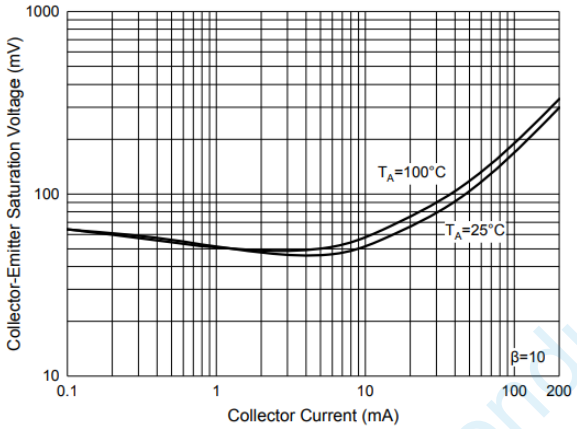
Electronics Characteristics (Ta=25°C, unless otherwise noted)



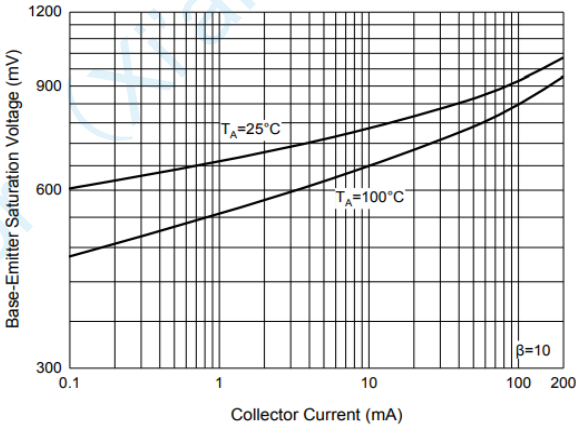
Static Characteristics



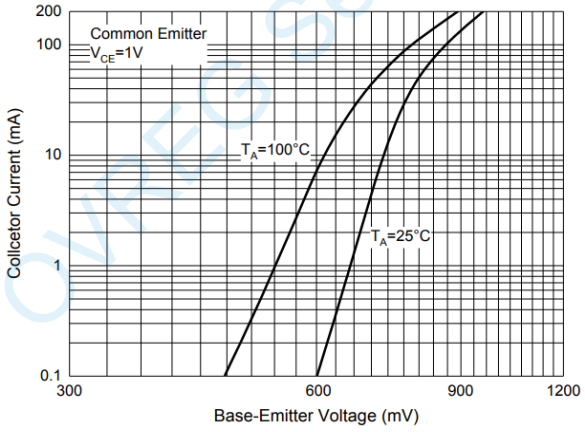
Base-Emitter Saturation Voltage Characteristics



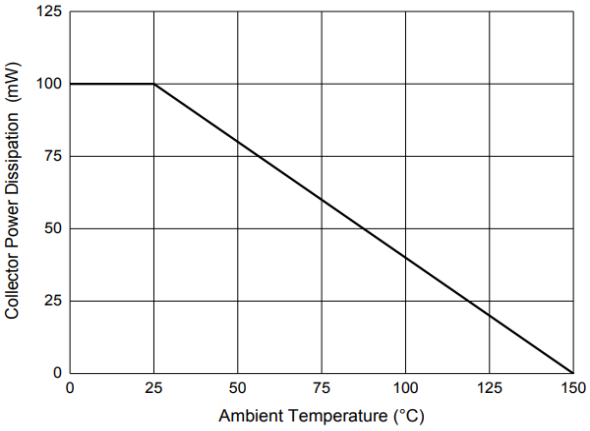
Collector-Emitter Saturation Voltage Characteristics



Base-Emitter Saturation Voltage Characteristics

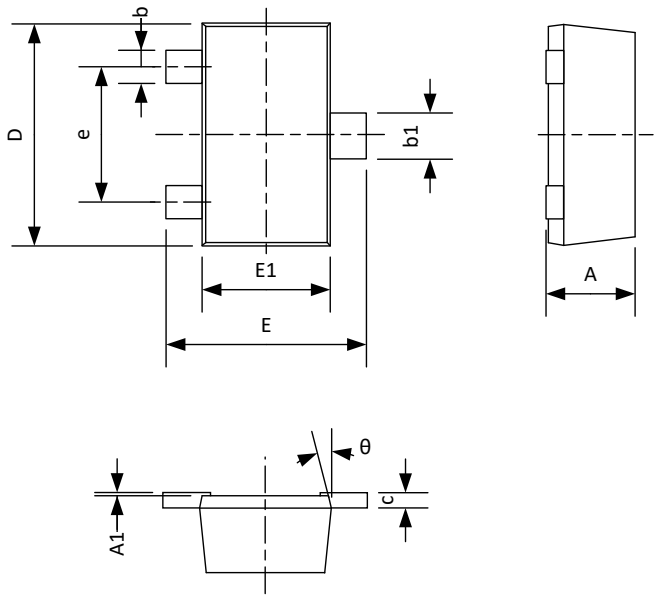


Base-Emitter Voltage CharacteristicsCharacteristics



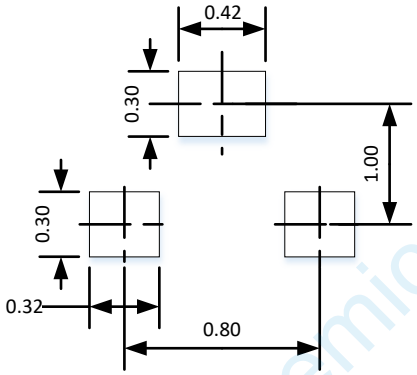
Collector Power Derating Curve

Package information



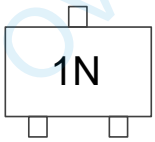
Symbol	Dim in mm	
	Min.	Max.
A	0.400	0.600
A1	0.000	0.050
b	0.150	0.300
b1	0.22	0.40
c	0.080	0.20
D	1.000	1.300
E	1.000	1.300
E1	0.650	0.950
e	0.800TYP.	
θ	7°REF	

Recommend PCB Layout



Notes: This Pcb Layout Is For Reference Purposes Only

Marking



Ordering Information

Part number	Material	Type	Reel size	MOQ	MOQ/internal box	MOQ/carton
OVS3904ST7R	GREEN	T/R	7 inch	8k/reel	10reel= 80k/box	4boxes=320k/carton