

FEATURES

- Low Collector Current
- Low Collector Power Dissipation

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

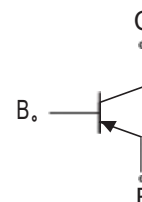
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-60	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-6	V
I_C	Collector Current	-200	mA
P_C	Collector Power Dissipation	400	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	312.5	$^{\circ}\text{C/W}$
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	$^{\circ}\text{C}$

SOT-23-3L



1. BASE
2. EMITTER
3. COLLECTOR

Equivalent Circuit



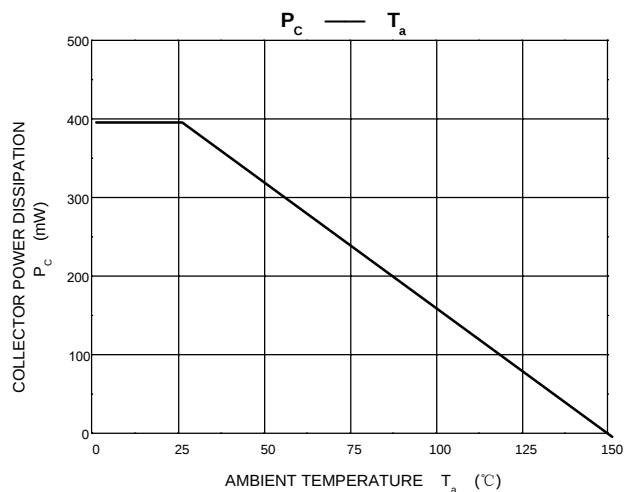
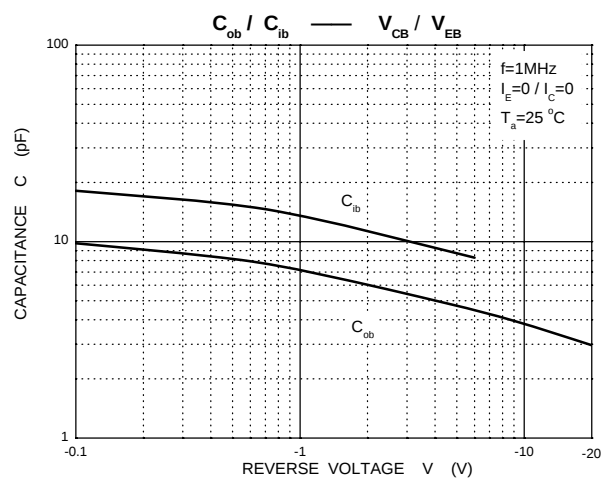
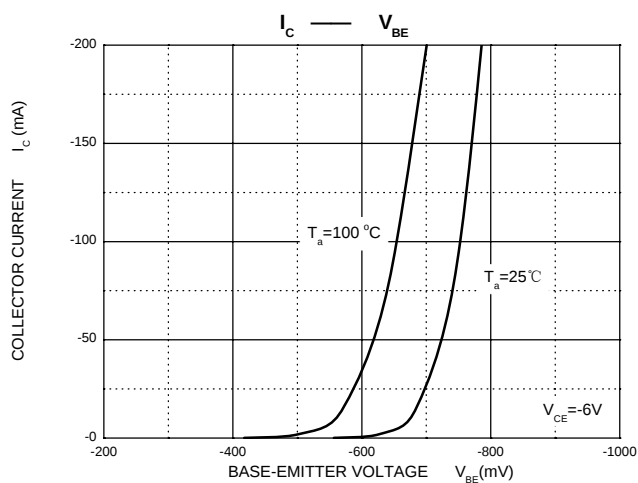
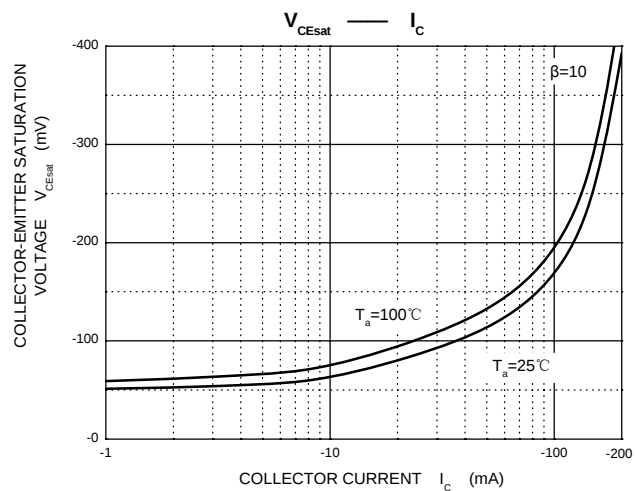
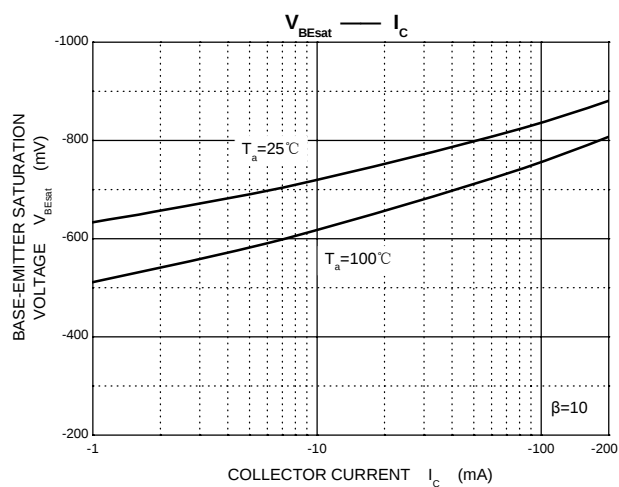
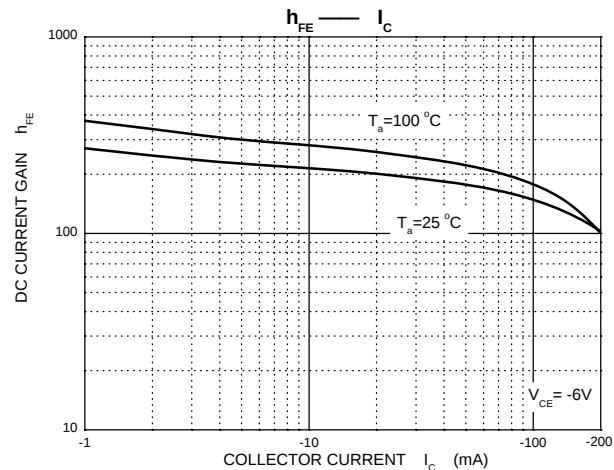
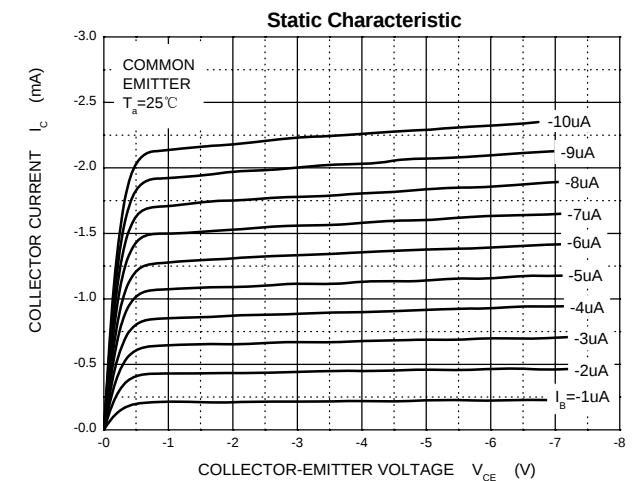
ELECTRICAL CHARACTERISTICS ($T_a=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=-100\mu\text{A}$, $I_E=0$	-60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=-0.1\text{mA}$, $I_B=0$	-50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=-100\mu\text{A}$, $I_C=0$	-6			V
Collector cut-off current	I_{CBO}	$V_{CB}=-60\text{V}$, $I_E=0$			-100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=-6\text{V}$, $I_C=0$			-100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=-6\text{V}$, $I_C=-1\text{mA}$	150		500	
	$h_{FE(2)}$	$V_{CE}=-6\text{V}$, $I_C=-0.1\text{mA}$	90			
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=-100\text{mA}$, $I_B=-10\text{mA}$			-0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=-100\text{mA}$, $I_B=-10\text{mA}$			-1	V
Transition frequency	f_T	$V_{CE}=-6\text{V}$, $I_C=-10\text{mA}$		200		MHz
Collector output capacitance	C_{ob}	$V_{CB}=-6\text{V}$, $I_E=0$, $f=1\text{MHz}$		4		pF

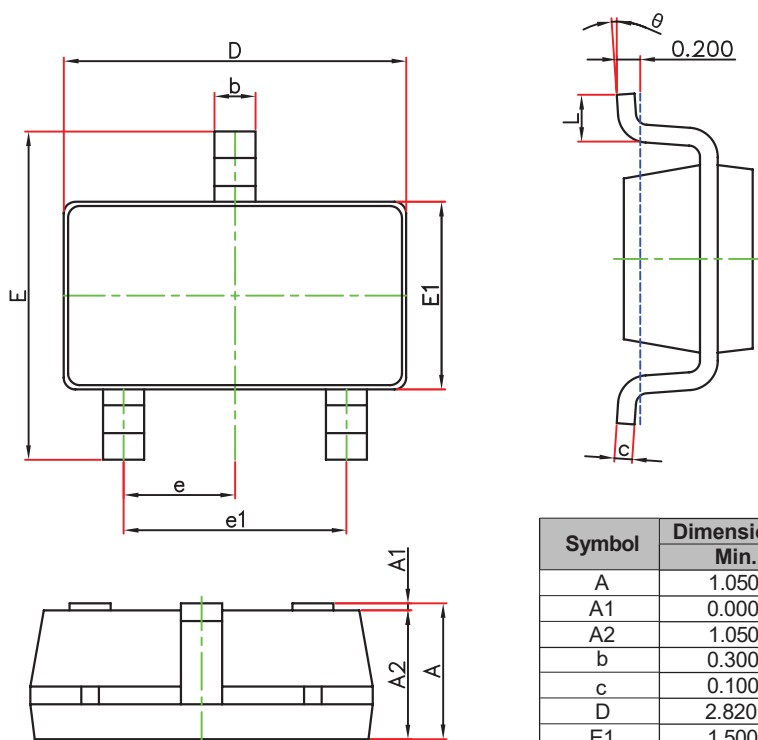
CLASSIFICATION OF $h_{FE(1)}$

RANK	M·E	M·F
RANGE	150~300	250~500
MARKING	M·E	M·F

Typical Characteristics

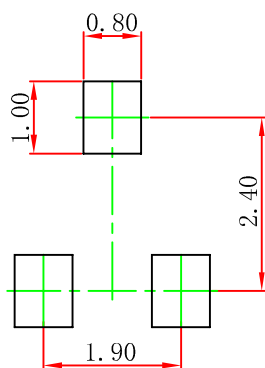


SOT-23-3L Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

SOT-23-3L Suggested Pad Layout



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