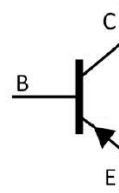
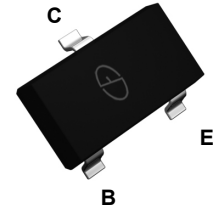


Features

- Collector currents up to 500 mA
- SOT-23 plastic package
- RoHS compliant



Schematic Diagram



SOT-23

Applications

- Switching application
- General purpose amplifier

Absolute Maximum Ratings

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

Parameter	Symbol	Rating	Unit
Collector to Base Voltage	V_{CBO}	-40	V
Collector to Emitter Voltage	V_{CEO}	-40	V
Emitter to Base Voltage	V_{EBO}	-5.0	V
Collector Current	I_C	-600	mA
Collector Power Dissipation	P_C	350	mW
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to +150	$^{\circ}\text{C}$

h_{FE} Classifications & Marking

h_{FE} Range	100 to 300
Marking	2TH

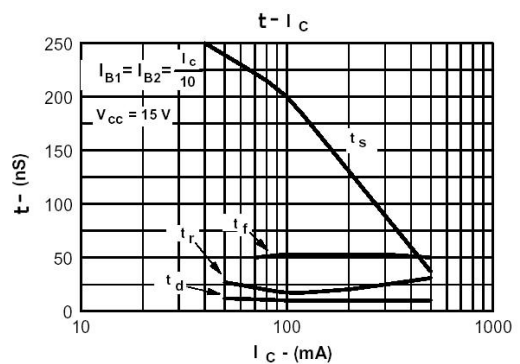
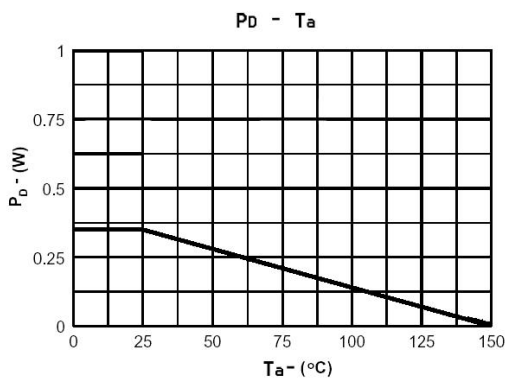
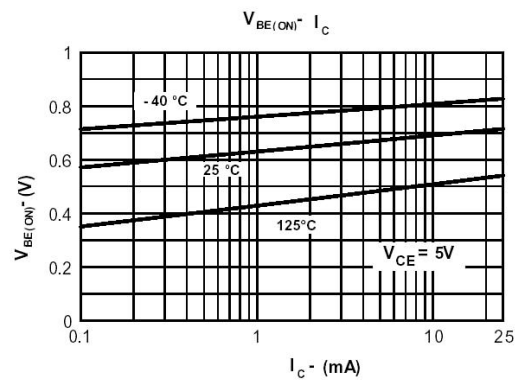
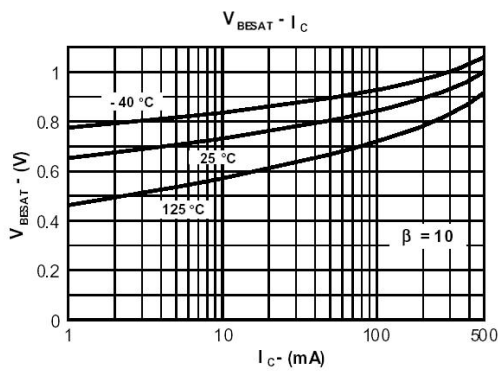
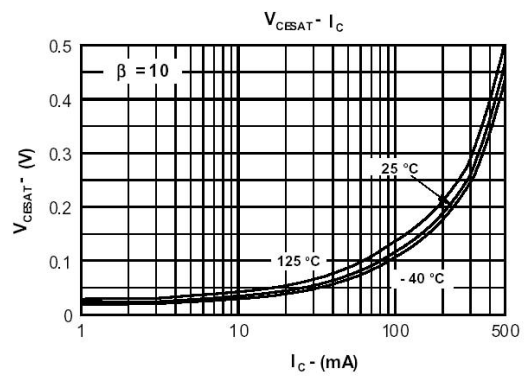
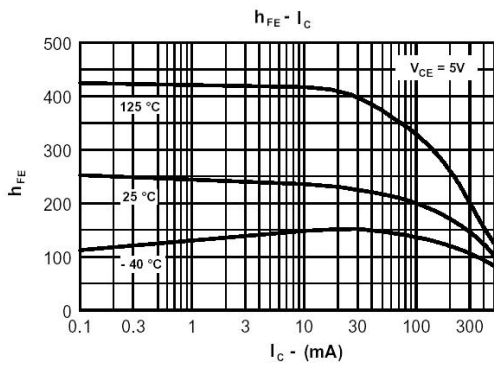
Electrical Characteristics

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

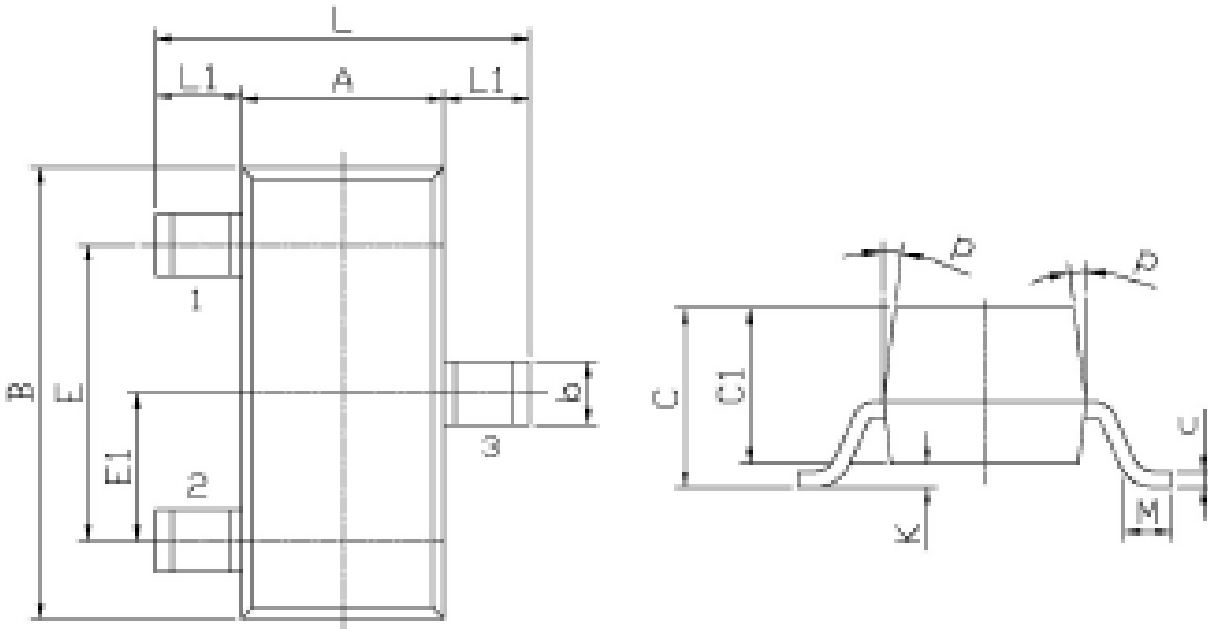
Parameter	Symbol	Test Conditions	Min	Max	Unit
Collector to Emitter Breakdown Voltage	V_{CEO}	$I_C=-0.1\text{mA}$ $I_B=0$	-40	-	V
Collector to Base Breakdown Voltage	V_{CBO}	$I_C=-1.0\text{mA}$ $I_E=0$	-40	-	V
Emitter to Base Breakdown Voltage	V_{EBO}	$I_E=-0.1\text{mA}$ $I_C=0$	-5.0	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=-40\text{V}$ $I_E=0$	-	-50	nA
Emitter Cut-Off Current	I_{EBO}	$V_{EB}=-5.0\text{V}$ $I_C=0$	-	-50	nA
DC Current Gain	$h_{FE(1)}$	$V_{CE}=-2.0\text{V}$ $I_C=-150\text{mA}$	100	300	
	$h_{FE(2)}$	$V_{CE}=-1.0\text{V}$ $I_C=-0.1\text{mA}$	30	-	
	$h_{FE(3)}$	$V_{CE}=-1.0\text{V}$ $I_C=-1.0\text{mA}$	60	-	
	$h_{FE(4)}$	$V_{CE}=-1.0\text{V}$ $I_C=-10\text{mA}$	100	-	
	$h_{FE(5)}$	$V_{CE}=-2.0\text{V}$ $I_C=-500\text{mA}$	20	-	
Collector-Emitter Saturation voltage	$V_{CE(sat)(1)}$	$I_C=-150\text{mA}$ $I_B=-15\text{mA}$	-	-0.4	V
	$V_{CE(sat)(2)}$	$I_C=-500\text{mA}$ $I_B=-50\text{mA}$	-	-0.75	V
Base-Emitter Saturation Voltage	$V_{BE(sat)(1)}$	$I_C=-150\text{mA}$ $I_B=-15\text{mA}$	-0.75	-0.95	V
	$V_{BE(sat)(2)}$	$I_C=-500\text{mA}$ $I_B=-50\text{mA}$	-	-1.3	V
Transition Frequency	f_T	$V_{CE}=-10\text{V}$ $I_C=-20\text{mA}$ $f=100\text{MHz}$	200	-	MHz
Delay Time	t_D	$V_{CC}=-30\text{V}$ $I_C=-150\text{mA}$ $I_{B1}=-15\text{mA}$	-	15	nS
Rise Time	t_R		-	20	nS
Storage Time	t_S	$V_{CC}=-30\text{V}$ $I_C=-150\text{mA}$ $I_{B1}=I_{B2}=-15\text{mA}$	-	225	nS
Fall Time	t_F		-	30	nS

Typical Characteristic Curves

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



Package Outline Dimensions SOT-23



Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
L	2.2	2.7	C	1.30Max	
L1	0.45	0.63	C1	0.90	1.20
A	1.15	1.50	c	0.05	0.20
B	2.70	3.10	K	0	0.10
E	1.70	2.10	M	0.20MIN	
E1	0.85	1.05	P	7°	
b	0.35	0.55			