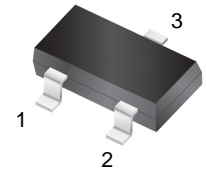


Features

- Ideal for automatic insertion
- For switching and AF amplifier applications



SOT-523

1. BASE
2. EMITTER
3. COLLECTOR

Absolute Maximum Ratings (T_A = 25 °C unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	-50	V
Collector-Emitter Voltage	V _{CEO}	-45	V
Emitter-Base Voltage	V _{EBO}	-6	V
Collector Current –Continuous	I _C	-0.1	A
Collector Power Dissipation	P _{C*}	150	mW
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55 to +150	°C

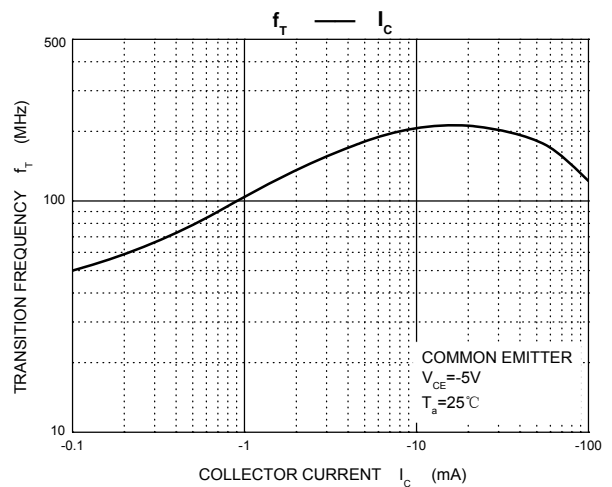
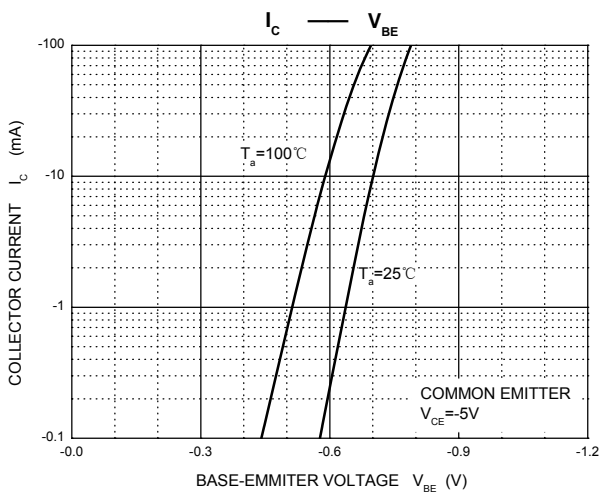
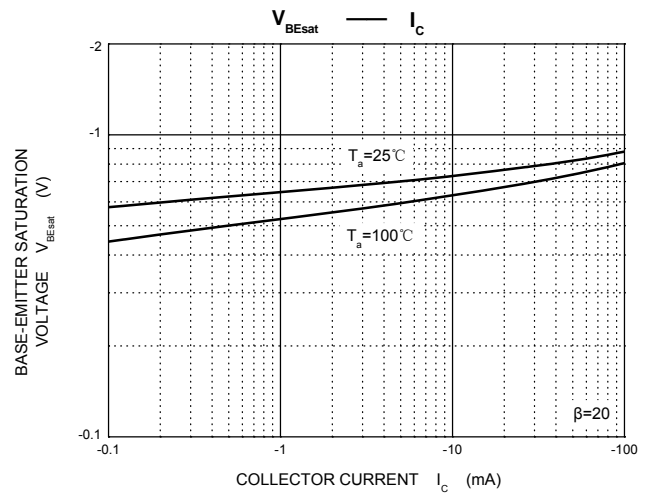
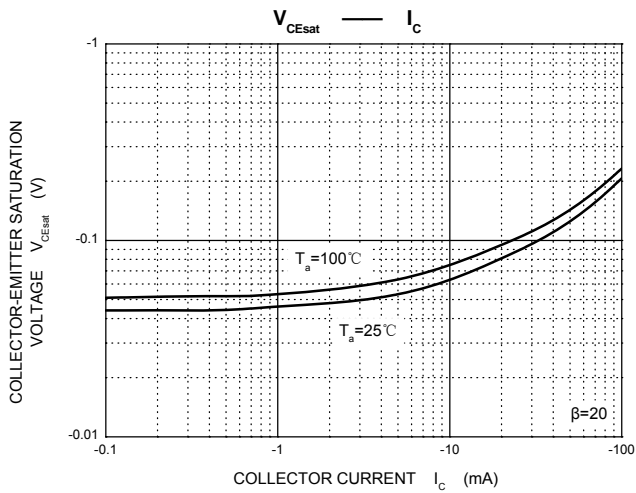
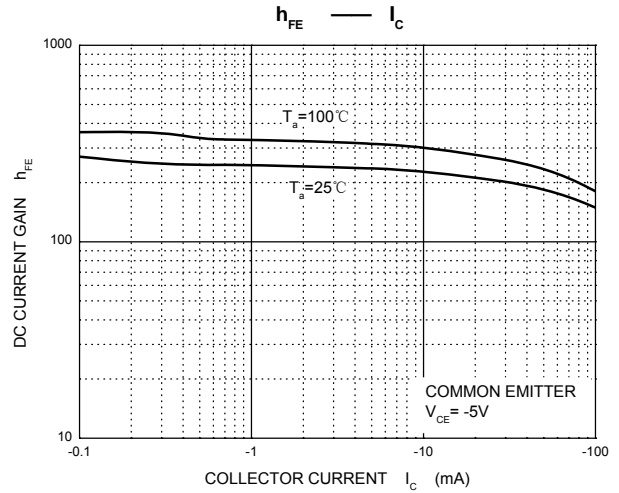
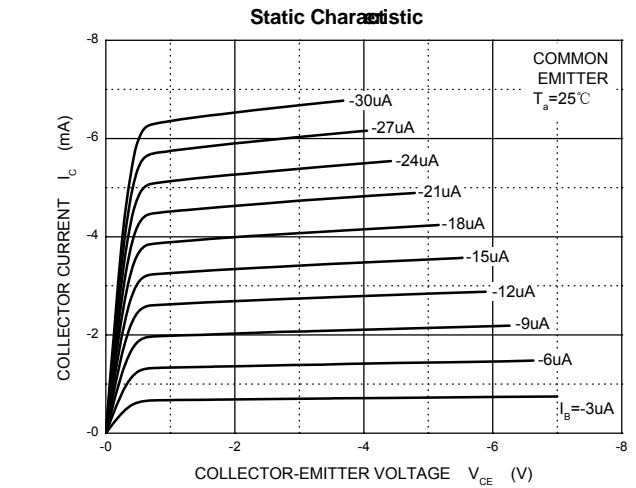
Electrical Characteristics (T_A = 25 °C unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V _{(BR)CBO}	I _C = -10μA, I _E =0	-50	-	-	V
Collector-Emitter Breakdown Voltage	V _{(BR)CEO}	I _C = -10mA, I _B =0	-45	-	-	V
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	I _E = -1μA, I _C =0	-6	-	-	V
Collector Cutoff Current	I _{CB0}	V _{CB} =-30V	-	-	-15	nA
DC Current Gain	h _{FE}	V _{CE} = -5V, I _C = -2mA	125	-	800	-
Collector-Emitter Saturation Voltage	V _{CE(sat)}	I _C =-10mA, I _B =-0.5mA I _C =-100mA, I _B =-5mA	-	-	-0.3	V
					-0.65	
Base-Emitter Saturation Voltage	V _{BE(sat)}	I _C =-10mA, I _B =-0.5mA I _C =-100mA, I _B = -5mA	-	-0.7	-	V
				-0.9		
Base-Emitter Voltage	V _{BE(on)}	V _{CE} = -5V, I _C = -2mA V _{CE} = -5V, I _C = -10mA	-600	-	-750	mV
					-820	
Transition Frequency	f _T	V _{CE} = -5 V, I _C = -10mA f=100MHz	100	-	-	MHz
Collector Output Capacitance	C _{ob}	V _{CB} =-10V,f=1MHz	-	-	4.5	pF
Noise Figure	NF	V _{CE} =-5V,I _C =-0.2mA, f=1kHz, R _S =2kΩ,BW=200Hz	-	-	10	dB

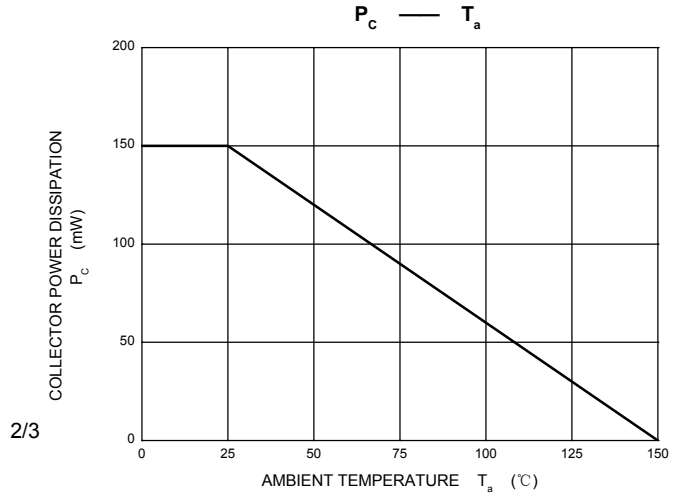
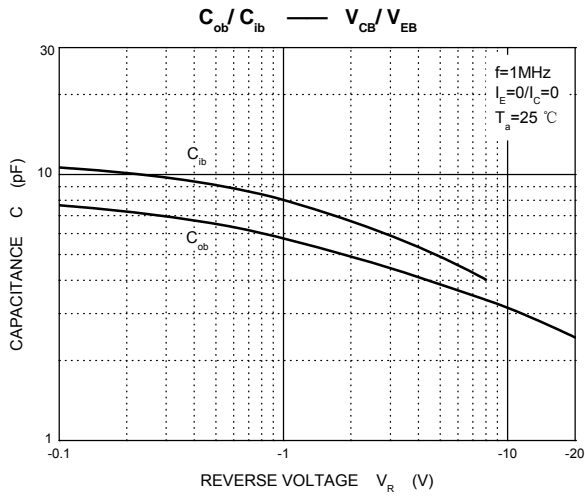
Classification of h_{FE}

Rank	A	B	C
Range	125-250	220-475	420-800

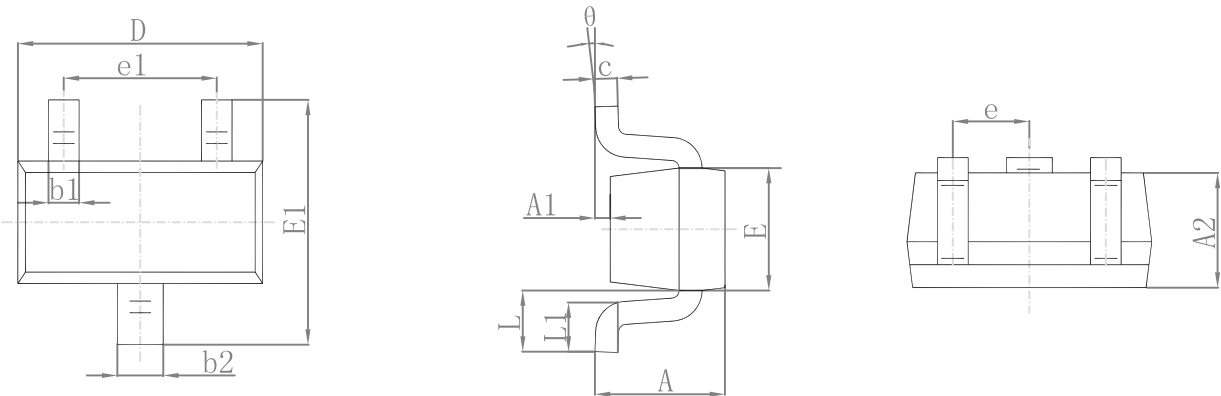
Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)



Characteristics Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

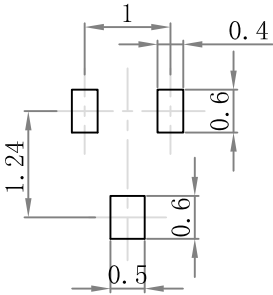


Package Outline Dimensions TO-523



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	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0 $^\circ$	8 $^\circ$	0 $^\circ$	8 $^\circ$

Suggested Pad Layout



Note:

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

Marking and Ordering Information

Device	Package	Marking	Quantity	HSF Status
GSBC857AT	SOT-523	3E	3000pcs / Reel	RoHS Compliant
GSBC857BT	SOT-523	3F	3000pcs / Reel	RoHS Compliant
GSBC857CT	SOT-523	3G	3000pcs / Reel	RoHS Compliant