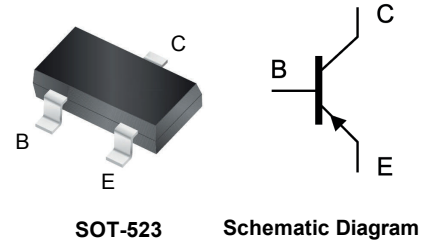


Features

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



Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	-50	V
Collector Emitter Voltage	V_{CEO}	-45	V
Emitter Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Peak Collector Current	I_{CM}	-200	mA
Power Dissipation	P_{tot}	150	mW
Max. Thermal Resistance from Junction to Ambient ¹	$R_{\theta JA}$	833	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	150	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	-65 to +150	$^{\circ}\text{C}$

Note:

1. Device mounted on FR-4 substrate PC board, with minimum recommended pad layout.

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

Parameter	Symbol	Test Conditions	Min.	Max.	Unit
DC Current Gain Current Gain Group	A	$V_{CE}=-5\text{V}, I_C=-2\text{mA}$	125	250	-
	B		220	475	-
	C		420	800	-
Collector Base Cutoff Current	I_{CBO}	$V_{CB}=-30\text{V}$	-	-15	nA
Collector Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-10\mu\text{A}$	-50	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=-10\mu\text{A}$	-50	-	V
Collector Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-10\text{mA}$	-45	-	V
Emitter Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-1\mu\text{A}$	-5	-	V
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-10\text{mA}, I_B=-0.5\text{mA}$	-	-0.3	V
		$I_C=-100\text{mA}, I_B=-5\text{mA}$	-	-0.65	
Base Emitter On Voltage	$V_{BE(on)}$	$I_C=-2\text{mA}, V_{CE}=-5\text{V}$	-0.6	-0.75	V
		$I_C=-10\text{mA}, V_{CE}=-5\text{V}$	-	-0.82	
Transition Frequency	f_T	$V_{CE}=-5\text{V}, I_C=-10\text{mA}, f=100\text{MHz}$	100	-	MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=-10\text{V}, f=1\text{MHz}$	-	6	pF

Electrical Characteristics Curves

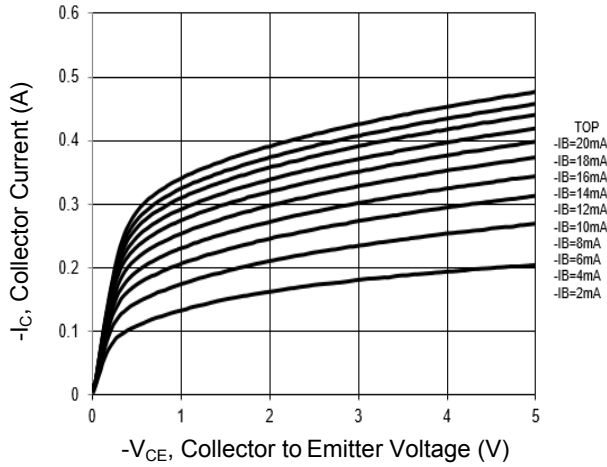


Figure 1. Output Characteristics Curve

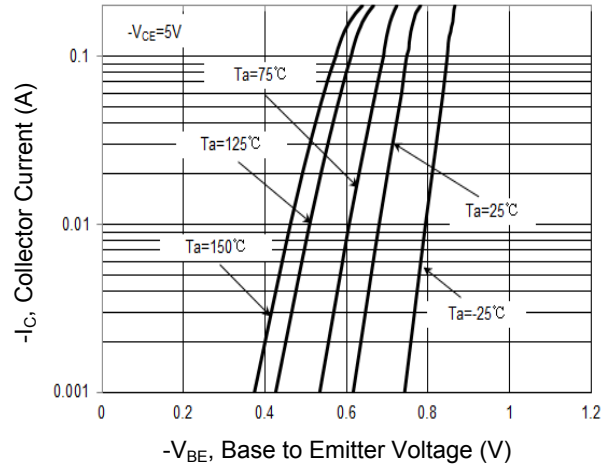


Figure 2. Collector Current vs. Base to Emitter Voltage

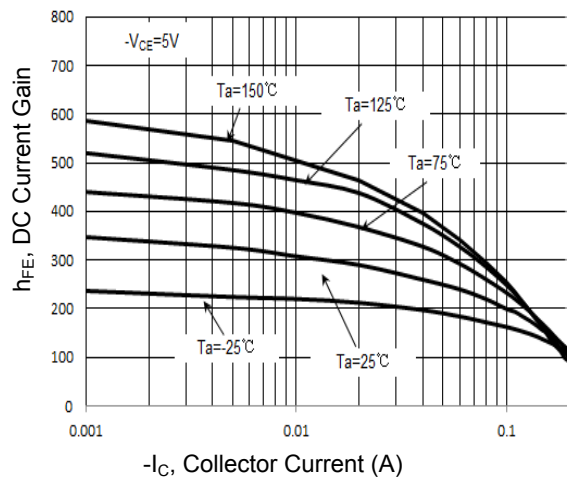


Figure 3. DC Current Gain vs. Collector Current

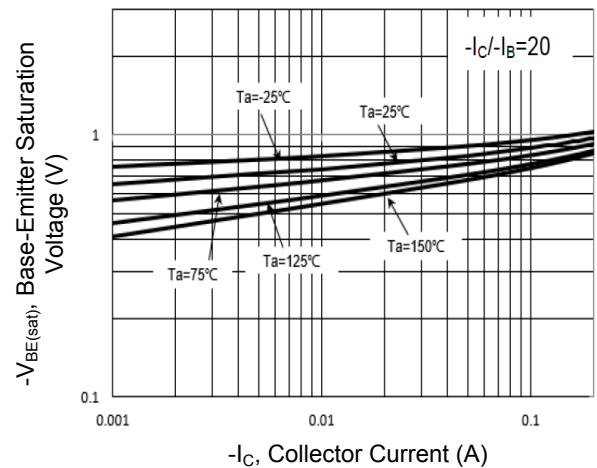


Figure 4. $V_{BE(sat)}$ vs. Collector Current

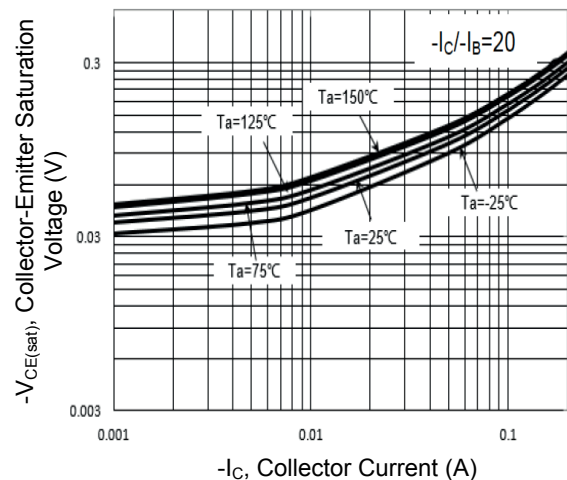


Figure 5. $V_{CE(sat)}$ vs. Collector Current

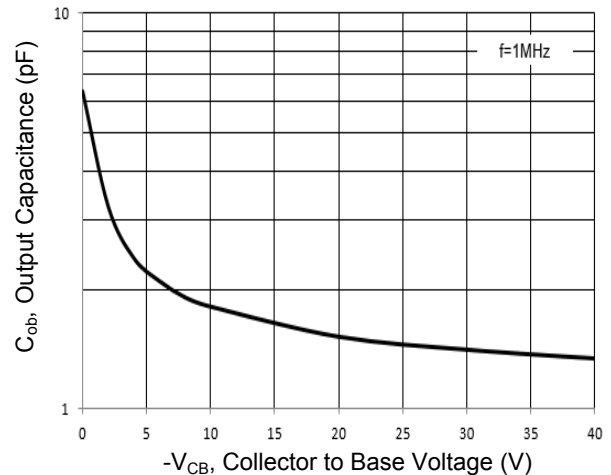


Figure 6. Output Capacitance

Electrical Characteristics Curves

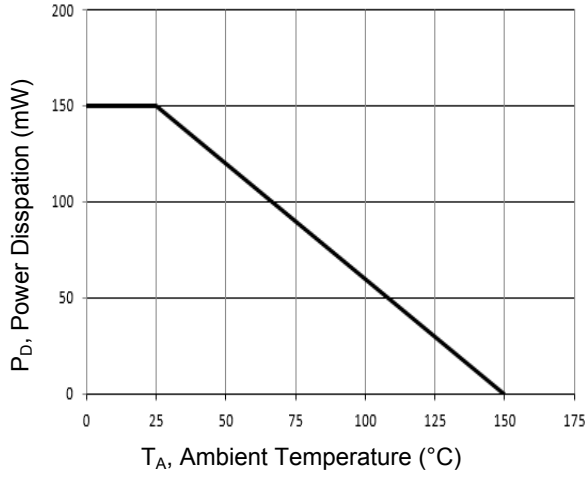
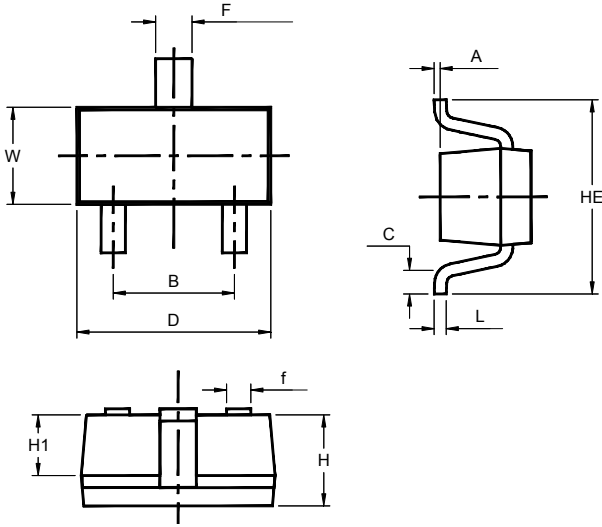


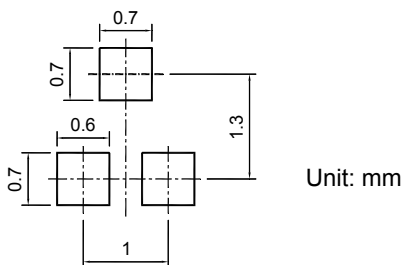
Figure 7. Power Derating Curve

Package Outline Dimensions (SOT-23)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	-	0.10	-	0.004
B	0.95	1.05	0.037	0.041
C	0.17	-	0.007	-
D	1.50	1.70	0.059	0.067
H	0.65	0.85	0.026	0.033
H1	0.40	0.60	0.016	0.024
HE	1.50	1.70	0.059	0.067
F	0.25	0.35	0.010	0.014
f	0.15	0.25	0.006	0.010
L	0.05	0.15	0.002	0.006
W	0.70	0.90	0.028	0.035

Recommended Pad Layout



Order Information

Device	Package	Marking	Carrier	Quantity
GSBC857AT	SOT-523	3E	Tape & Reel	3,000pcs / Reel
GSBC857BT	SOT-523	3F	Tape & Reel	3,000pcs / Reel
GSBC857CT	SOT-523	3G	Tape & Reel	3,000pcs / Reel

For more information, please contact us at: inquiry@goodarksemi.com