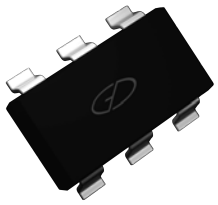
GOOD-ARK
SEMICONDUCTOR

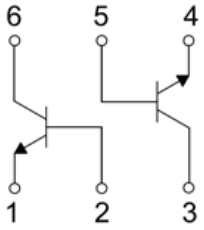
GSBC847S
Dual NPN Transistor

Features

- Dual NPN transistors in one single package
- Ideal for general purpose amplifier applications



SOT-363



Schematic Diagram

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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	45	
Emitter-Base Voltage	V_{EBO}	6	
Collector Current-Continuous	I_C	100	mA
Power Dissipation	P_D	200	mW
Thermal Resistance. Junction to Ambient	$R_{\theta JA}$	625	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature Range	T_{STG}	-55 to +150	

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=1mA,I_B=0	45	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=10μA,I_C=0	6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=30V,I_E=0	-	-	15	nA
Emitter Cut-off Current	I_{EBO}	V_{EB} =4V, I_C=0	-	-	15	
DC Current Gain[1]	h_{FE}	V_{CE}=5V,I_C=2mA	110	-	630	
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	I_C=10mA,I_B=0.5mA	-	-	0.25	V
	$V_{CE(sat)(2)}$	I_C=100mA,I_B=5mA	-	-	0.65	V
Base-Emitter Voltage	$V_{BE(1)}$	V_{CE}=5V,I_C=2mA	0.58	-	0.7	V
	$V_{BE(2)}$	V_{CE}=5V,I_C=10mA	-	-	0.77	V
Transition Frequency	f_T	V_{CE}=5V,I_C=20mA ,f=100MHz	-	200	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz	-	2	-	pF

Note 1: Pulse Test: Pulse Width ≤300μs, Duty Cycle≤ 2.0%.

Typical Electrical and Thermal Characteristic Curves

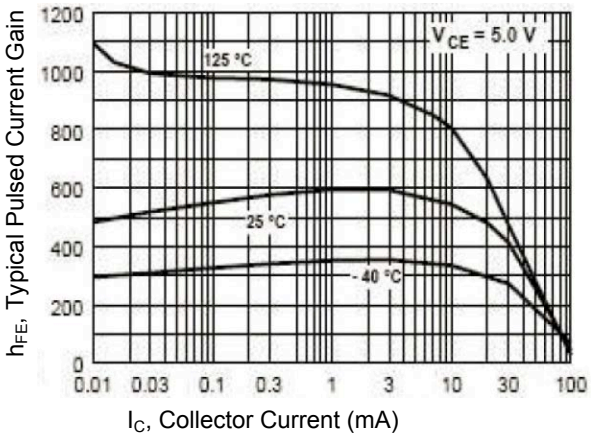


Figure 1. Typical Pulsed Current Gain vs. Collector Current

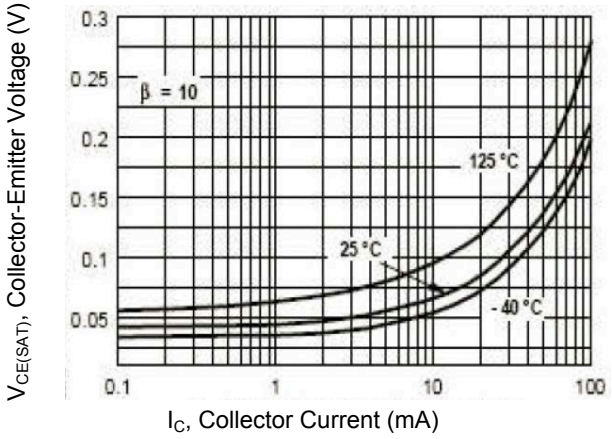


Figure 2. Collector-Emitter Saturation Voltage vs. Collector Current

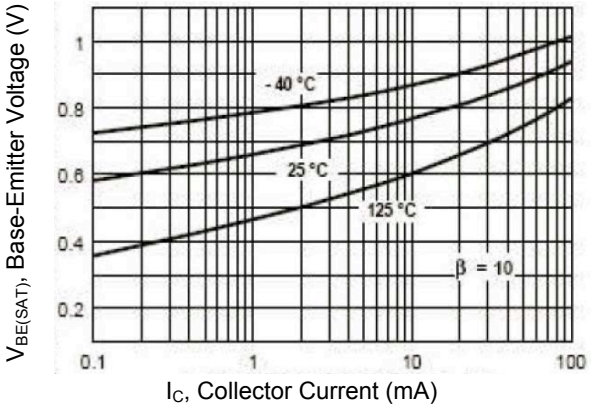


Figure 3. Base-Emitter Saturation Voltage vs. Collector Current

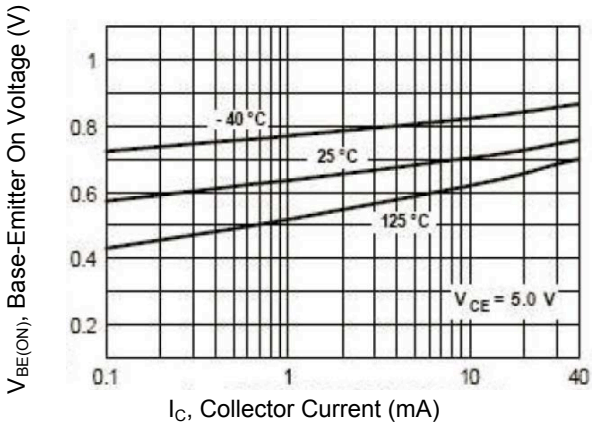


Figure 4. Base-Emitter On Voltage vs. Collector Current

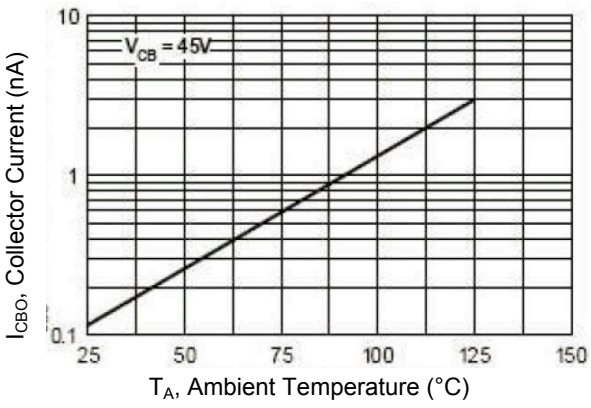


Figure 5. Collector - Cutoff Current vs. Ambient Temperature

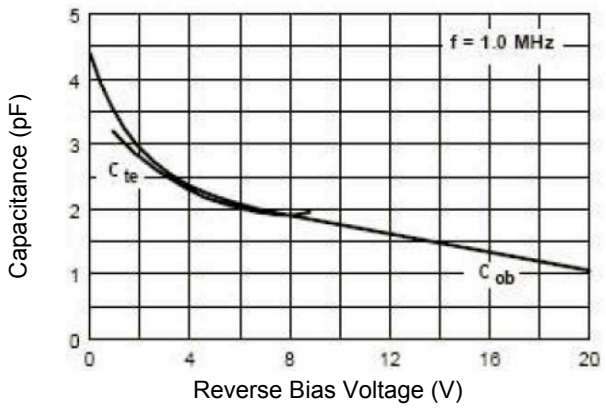
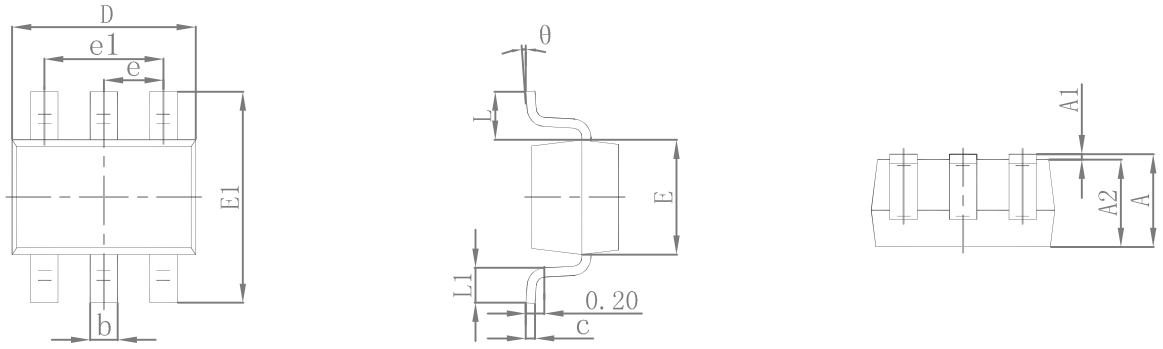


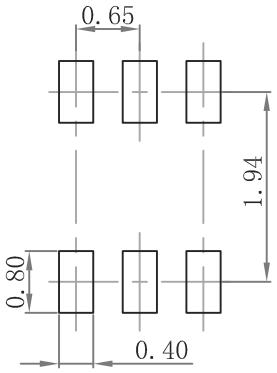
Figure 6. Input and Output Capacitance vs. Reverse Bias Voltage

Package Outline Dimensions SOT-363



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.150	0.350	0.006	0.014
c	0.100	0.150	0.004	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.400	0.085	0.094
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

Suggested Pad Layout



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