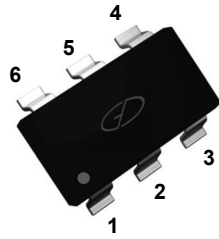


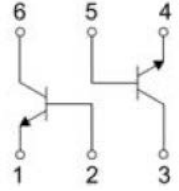
Features

- Two transistors in one package
- High stability and high reliability



SOT-363

1. Emitter1
2. Base1
3. Collector2
4. Emitter2
5. Base2
6. Collector1



Schematic Diagram

Mechanical Data

- SOT-363 small outline plastic package
- Epoxy UL: 94V-0

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

Parameter	Symbol	Value	Unit
Collector - Base Voltage	V_{CBO}	80	V
Collector - Emitter Voltage	V_{CEO}	65	V
Emitter-Base Voltage	V_{EBO}	6	V
Collector Current – Continuous	I_C	100	mA
Collector Power Dissipation	P_C	380	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	328	$^{\circ}\text{C}/\text{W}$
Junction Temperature	T_J	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	-55 to +150	$^{\circ}\text{C}$

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

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector - Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu\text{A}, I_E=0$	80	-	-	V
Collector - Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=10\text{mA}, I_B=0$	65	-	-	V
Collector - Emitter Breakdown Voltage	$V_{(BR)CES}$	$I_C=10\mu\text{A}, V_{EB}=0$	80	-	-	V
Emitter - Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=1\mu\text{A}, I_C=0$	6	-	-	V
Collector Cut-Off Current	I_{CBO}	$V_{CB}=30\text{V}, I_E=0$	-	-	15	nA
DC Current Gain	h_{FE}	$V_{CE}=5\text{V}, I_C=2\text{mA}$	200	-	450	-
Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	-	-	0.25	V
	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$	-	-	0.6	V
Base - Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=10\text{mA}, I_B=0.5\text{mA}$	-	0.7	-	V
	$V_{BE(sat)}$	$I_C=100\text{mA}, I_B=5\text{mA}$	-	0.9	-	V
Base - Emitter Voltage	$V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=2\text{mA}$	0.58	-	0.7	V
	$V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	-	-	0.77	V
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	-	4.5	pF
Current Gain-Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100	-	-	MHz

Ratings and Characteristic Curves

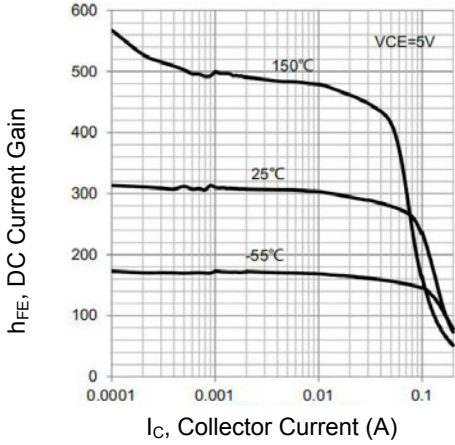


Figure 1. DC Current Gain vs. Collector Current

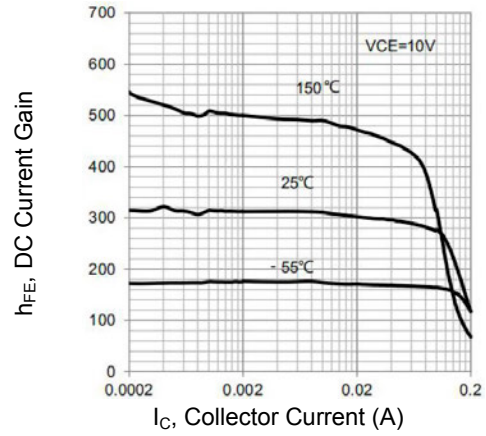


Figure 2. DC Current Gain vs. Collector Current (V_{CE}=10V)

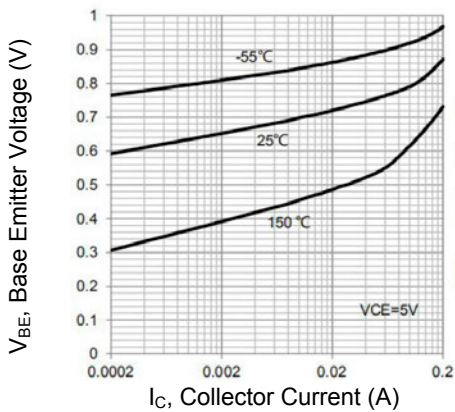


Figure 3. Base Emitter Voltage vs. Collector Current

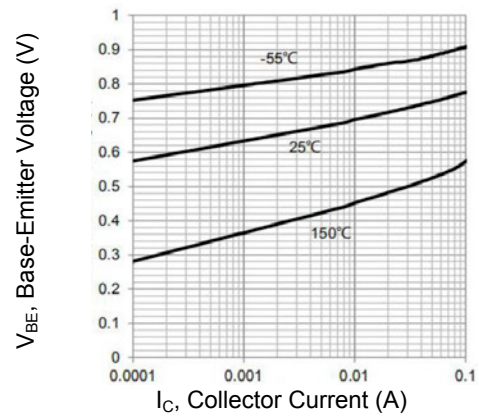


Figure 4. Base Emitter Voltage vs. Collector Current

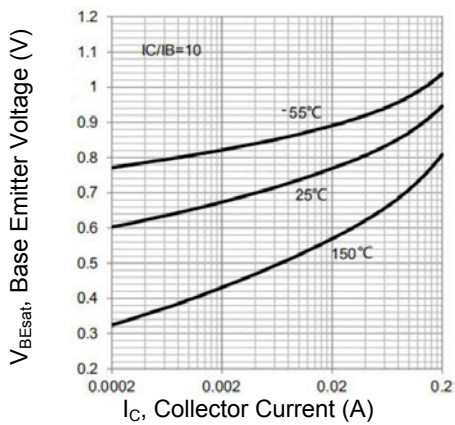


Figure 5. Base Emitter Voltage vs. Collector Current

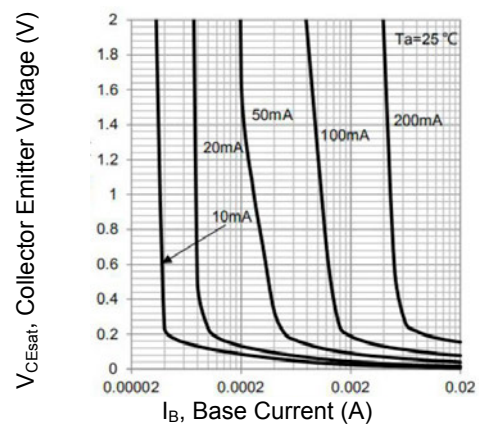
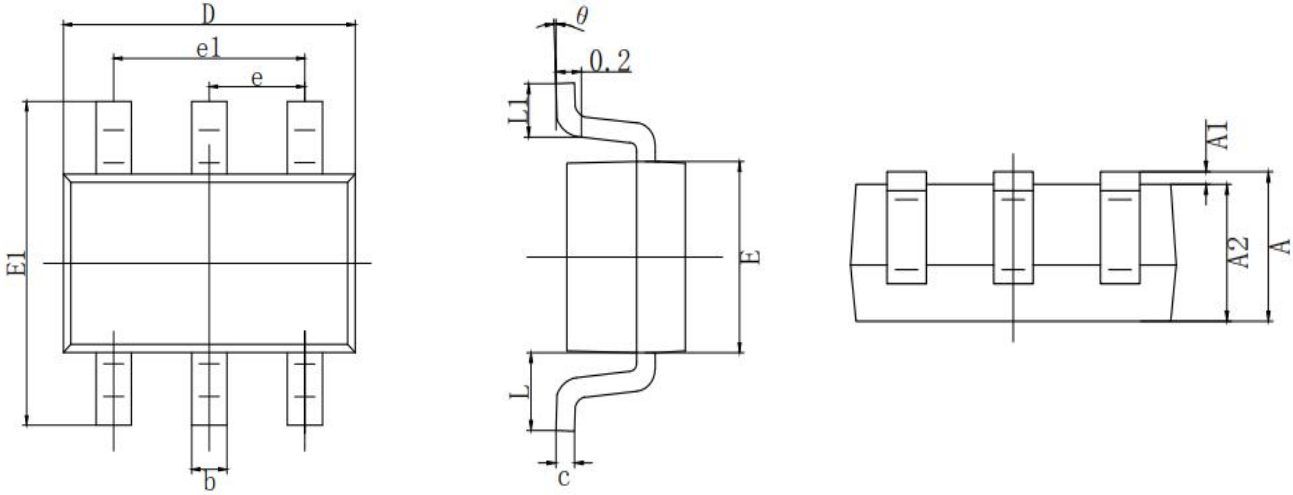


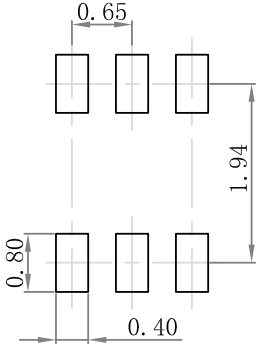
Figure 6. Collector Emitter Voltage vs. Base Current

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	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
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°

Recommended Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Recommended Pad Layout

Device	Package	Marking	Carrier	Quantity
GSBC846BDW	SOT-363	1B	Tape & Reel	3,000 pcs / Reel