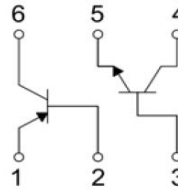
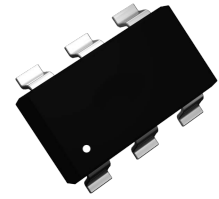


**Features**

- Transistor elements are independent, eliminating interference
- Two isolated transistors in one package



Schematic Diagram



SOT-363

**NPN Absolute Maximum Ratings**

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

Parameter	Symbol	Rating	Unit
Collect-Base Voltage	$V_{CBO}$	60	V
Collector-Emitter Voltage	$V_{CEO}$	50	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector Current-Continuous	$I_C$	150	mA
Collector Power Dissipation	$P_C$	150	mW
Junction Temperature	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

**PNP Absolute Maximum Ratings**

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

Parameter	Symbol	Rating	Unit
Collect-Base Voltage	$V_{CBO}$	-60	V
Collector-Emitter Voltage	$V_{CEO}$	-50	V
Emitter-Base Voltage	$V_{EBO}$	-6	V
Collector Current-Continuous	$I_C$	-150	mA
Collector Power Dissipation	$P_C$	150	mW
Junction Temperature	$T_J$	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	$T_{STG}$	-55 to +150	$^{\circ}\text{C}$

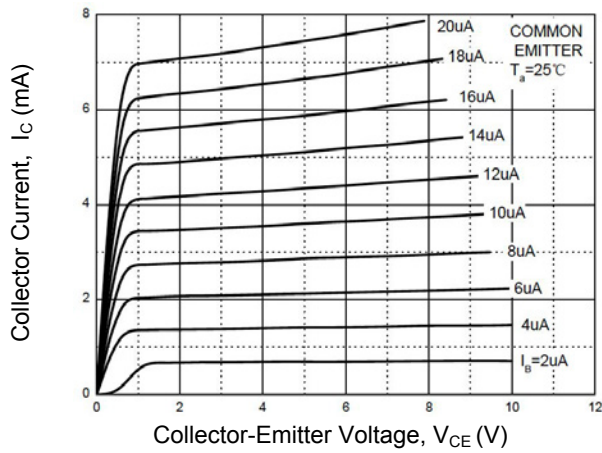
**NPN Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	60	-	-	V
Collector-emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50	-	-	V
Emitter-base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	7	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=60\text{V}, I_E=0$	-	-	0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=7\text{V}, I_C=0$	-	-	0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=6\text{V}, I_C=1\text{mA}$	120	-	560	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=50\text{mA}, I_B=5\text{mA}$	-	-	0.4	V
Transition Frequency	$f_T$	$V_{CE}=12\text{V}, I_E=2\text{mA},$ $f=100\text{MHz}$	-	180	-	MHz
Output Capacity	$C_{ob}$	$V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$	-	-	3.5	pF

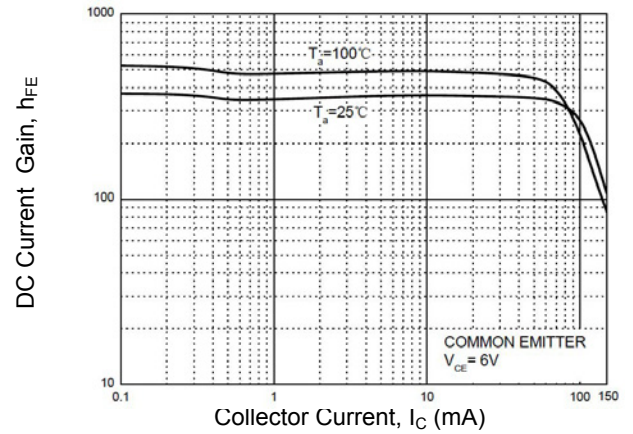
**PNP Electrical Characteristics** ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=-50\mu\text{A}, I_E=0$	-60	-	-	V
Collector-emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=-1\text{mA}, I_B=0$	-50	-	-	V
Emitter-base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=-50\mu\text{A}, I_C=0$	-6	-	-	V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=-60\text{V}, I_E=0$	-	-	-0.1	$\mu\text{A}$
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=-6\text{V}, I_C=0$	-	-	-0.1	$\mu\text{A}$
DC Current Gain	$h_{FE}$	$V_{CE}=-6\text{V}, I_C=-1\text{mA}$	120	-	560	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=-50\text{mA}, I_B=-5\text{mA}$	-	-	-0.5	V
Transition Frequency	$f_T$	$V_{CE}=-12\text{V}, I_E=-2\text{mA},$ $f=100\text{MHz}$	-	140	-	MHz
Output Capacity	$C_{ob}$	$V_{CB}=-12\text{V}, I_E=0, f=1\text{MHz}$	-	-	5	pF

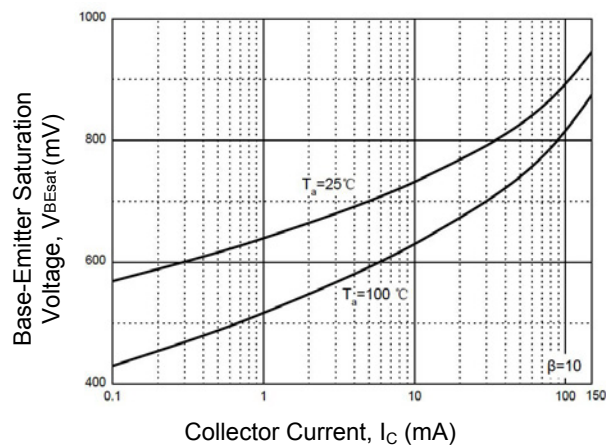
**Typical Characteristic Curves (NPN)**



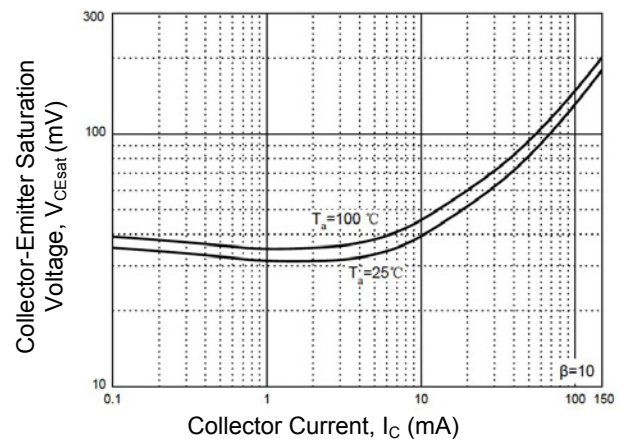
**Figure 1. Static Characteristic**



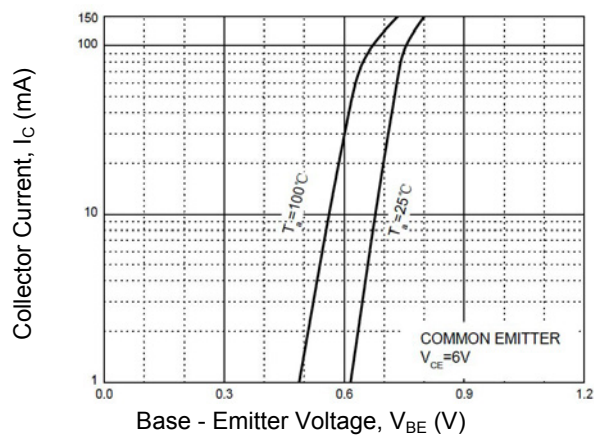
**Figure 2. DC Current Gain vs Collector Current**



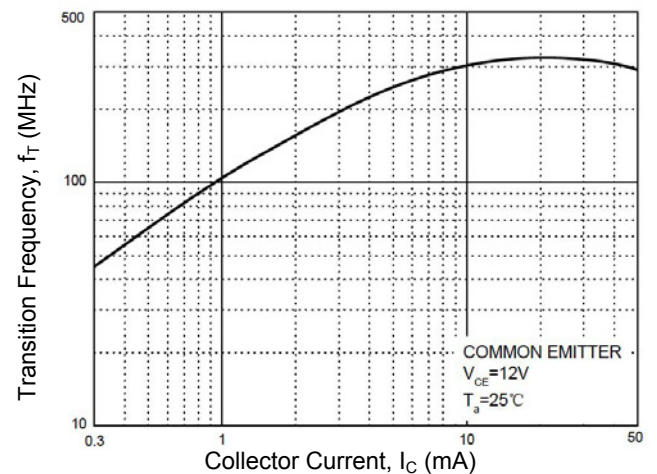
**Figure 3. Collector-Emitter Saturation Voltage vs. Collector Current**



**Figure 4. Collector-Emitter Saturation Voltage vs. Collector Current**

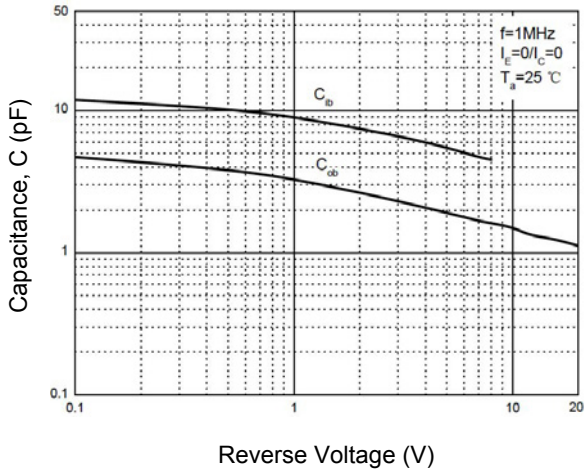


**Figure 5. Collector Current vs. Base-Emitter Voltage**

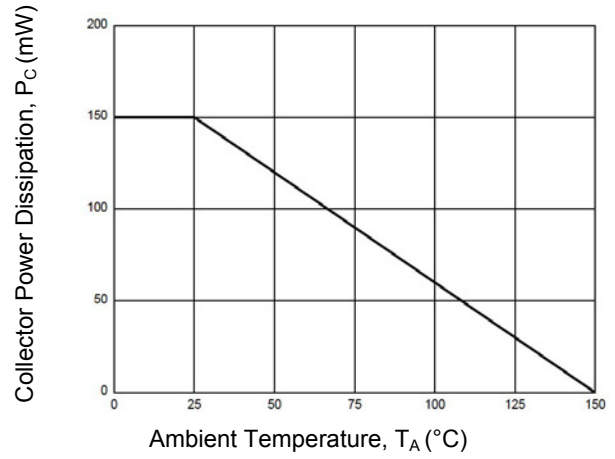


**Figure 6. Transition Frequency vs. Collector Current**

**Typical Characteristic Curves (NPN)**

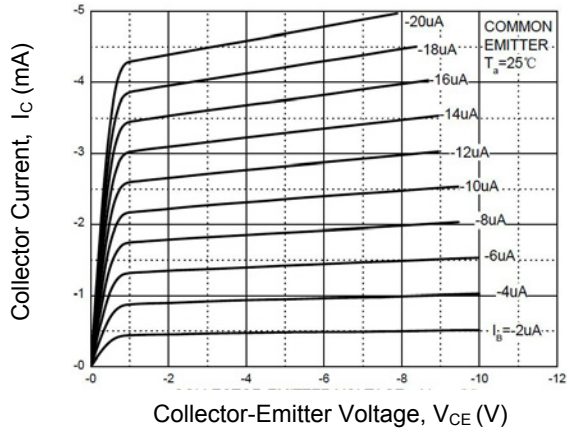


**Figure 7. Capacitance Characteristics**

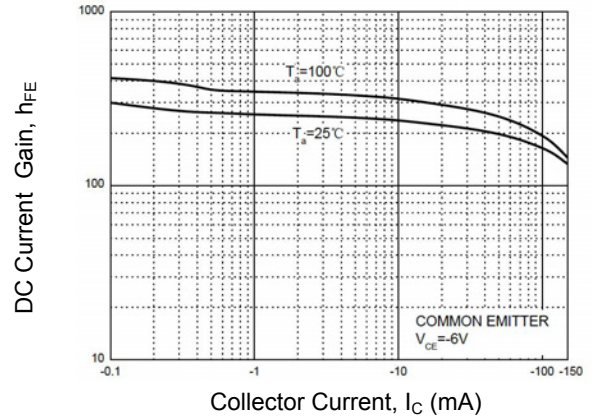


**Figure 8. Power Dissipation vs Ambient Temperature**

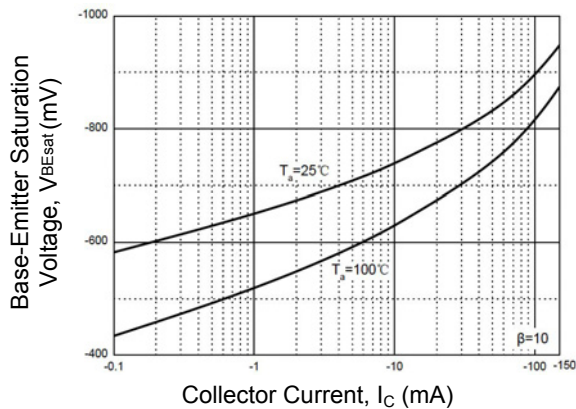
**Typical Characteristic Curves (PNP)**



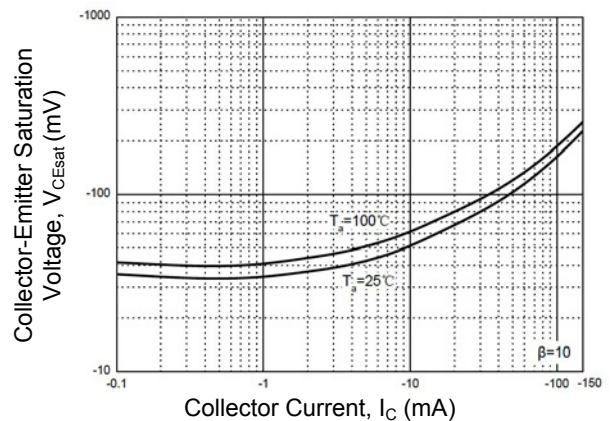
**Figure 1. Static Characteristic**



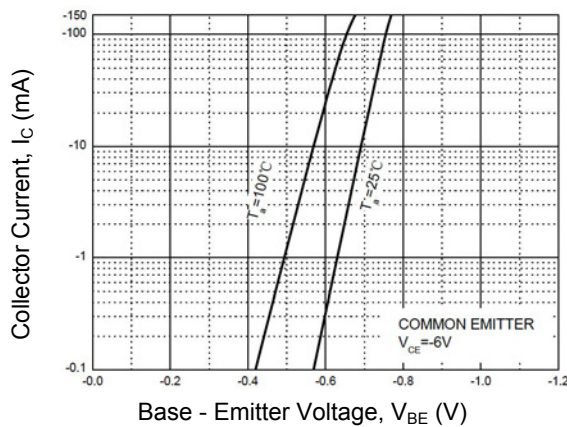
**Figure 2. DC Current Gain vs Collector Current**



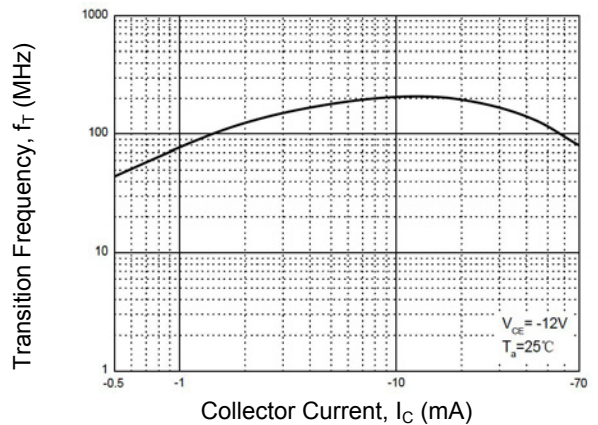
**Figure 3. Collector-Emmitter Saturation Voltage vs. Collector Current**



**Figure 4. Collector-Emmitter Saturation Voltage vs. Collector Current**

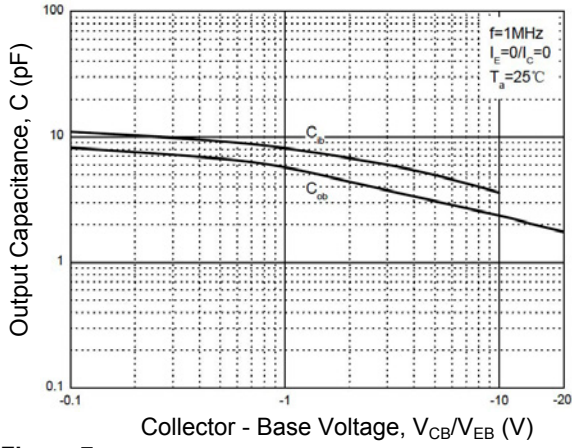


**Figure 5. Collector Current vs. Base-Emmitter Voltage**

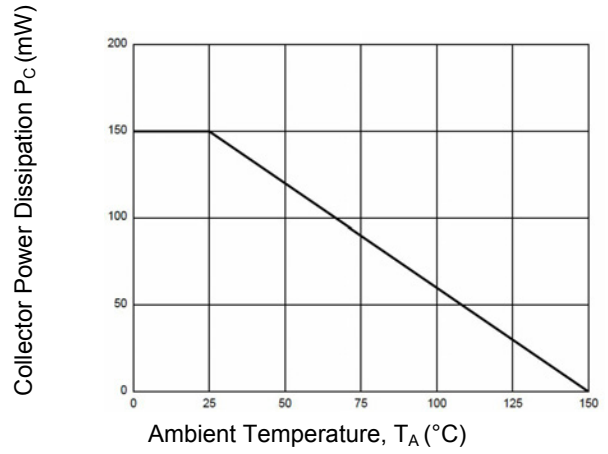


**Figure 6. Transition Frequency vs. Collector Current**

**Typical Characteristic Curves (PNP)**

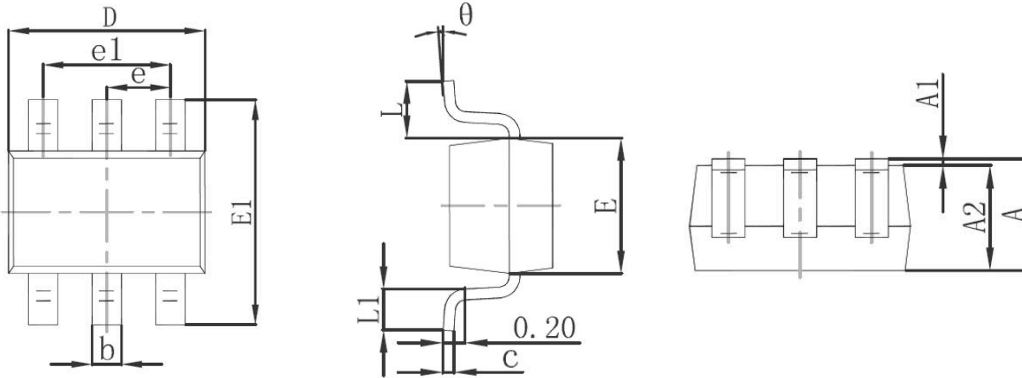


**Figure 7. Capacitance Characteristics**



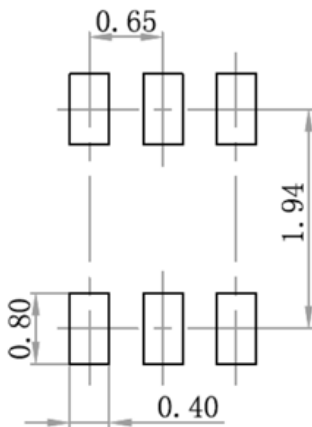
**Figure 8. Power Dissipation vs Ambient Temperature**

**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
theta	0°	8°	0°	8°

**Recommended Pad Layout**



- Note:
- Controlling dimension: in millimeter
  - General tolerance: ±0.05m
  - The pad layout is for reference purposes only.

**Marking and Ordering Information**

Device	Package	Marking	Carrier	Quantity	HSF Status
GSTK6015	SOT-363	Z2	Tape & Reel	3,000 pcs	RoHS Compliant