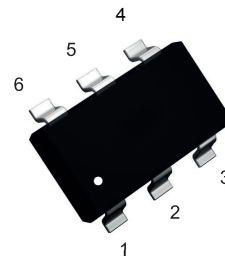
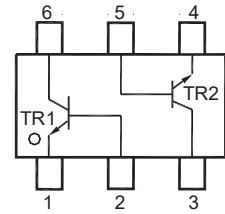


Features

- For switching and general purpose amplification
- High collector current
- Excellent DC current gain



SOT-23-6L



Schematic Diagram

TR1: 1. Emitter 2. Base 6. Collector
 TR2: 4. Emitter 5. Base 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}	5	V
Collector Current	I _C	500	mA
Total Power Dissipation ¹	P _{tot}	300	mW
Max. Thermal Resistance Junction to Ambient ¹	R _{θJA}	417	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature Range	T _{stg}	-55 to +150	°C

Note:

1. Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

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 =100μA	50	-	-	V
Collector Emitter Breakdown Voltage	V _{(BR)CEO}	I _C =10mA	45	-	-	V
Emitter Base Breakdown Voltage	V _{(BR)EBO}	I _E =100μA	5	-	-	V
Collector Base Cutoff Current	I _{CB0}	V _{CB} =20V	-	-	100	nA
Emitter Base Cutoff Current	I _{EBO}	V _{EB} =5V	-	-	100	nA
DC Current Gain	h _{FE}	V _{CE} =1V, I _C =100mA	100	-	250	-
			160	-	400	
			250	-	600	
DC Current Gain		V _{CE} =1V, I _C =500mA	40	-	-	
Collector Emitter Saturation Voltage	V _{CE(sat)}	I _C =500mA, I _B =50mA	-	-	0.7	V
Base Emitter Voltage	V _{BE(on)}	I _C =500mA, V _{CE} =1V	-	-	1.2	V
Transition Frequency	f _T	V _{CE} =5V, I _C =10mA, f=100MHz	100	-	-	MHz
Collector Base Capacitance	C _{ob}	V _{CB} =10V, f=1MHz	-	3.2	-	pF

Electrical Characteristic Curves

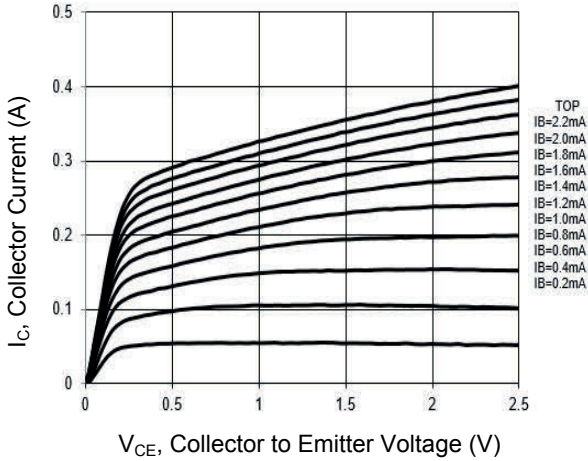


Figure 1. Output Characteristics Curve

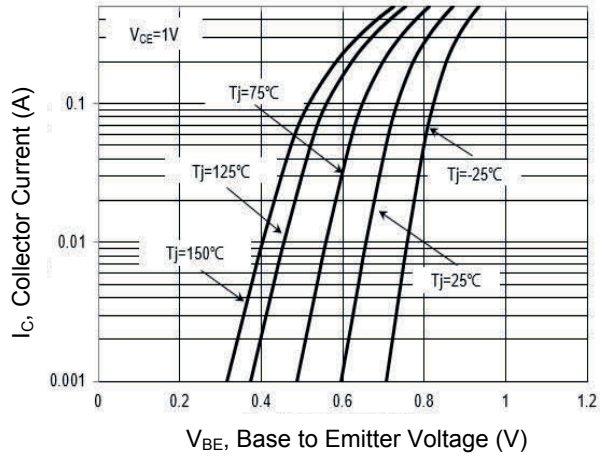


Figure 2. Collector Current vs. Base to Emitter Voltage

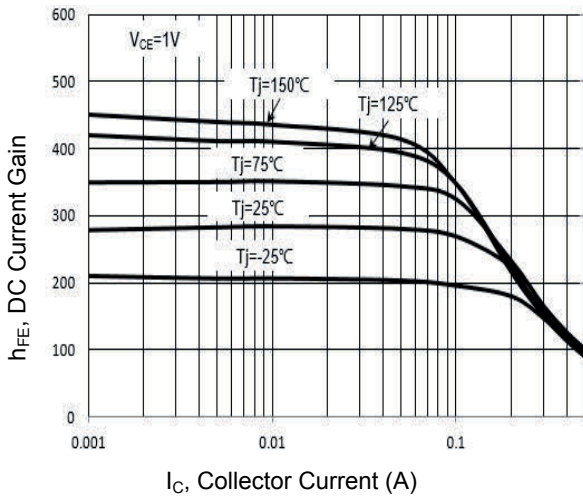


Figure 3. DC Current Gain vs. Collector Current

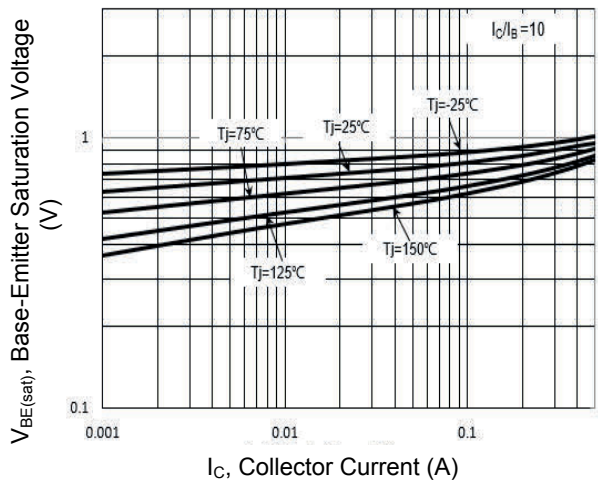


Figure 4. Base-Emitter Saturation Voltage vs. Collector Current

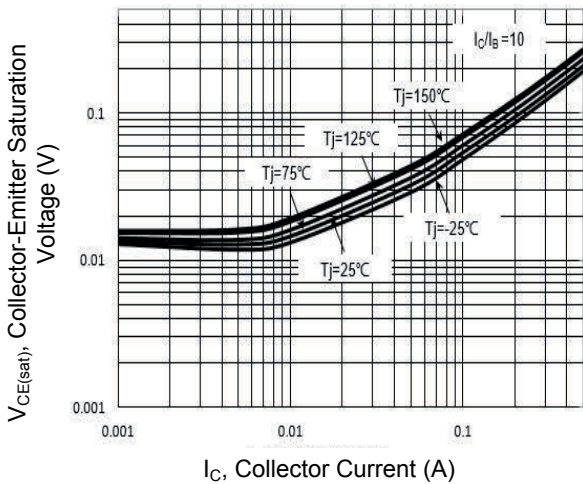


Figure 5. Collector-Emmitter Saturation Voltage vs. Collector Current

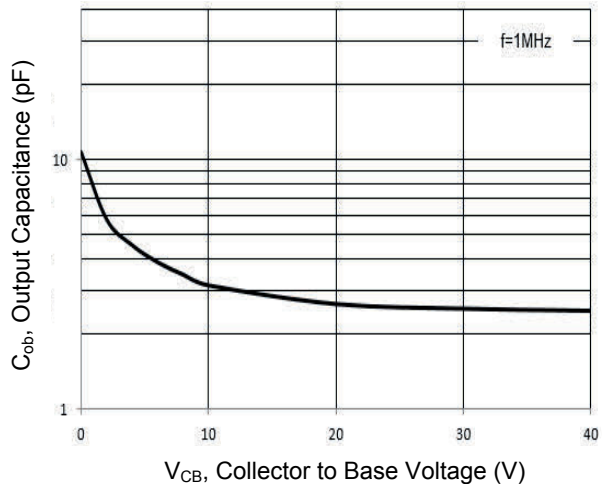


Figure 6. Output Capacitance

Electrical Characteristic Curves

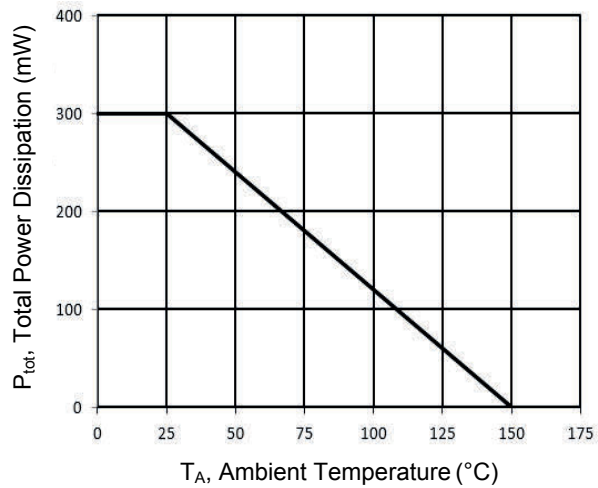
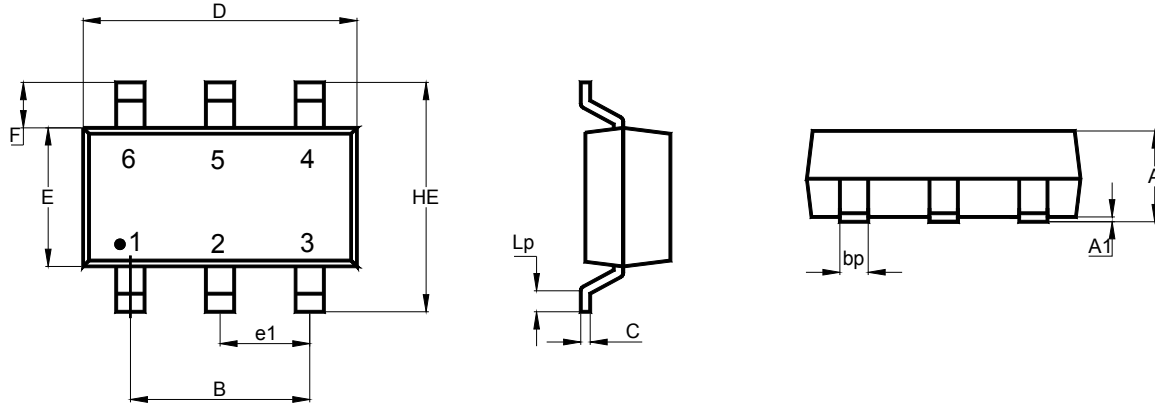


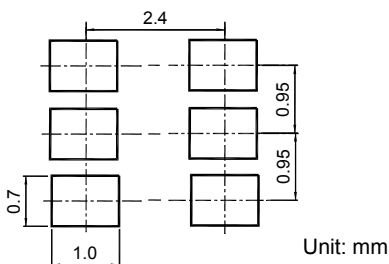
Figure 7. Power Derating Curve

Package Outline Dimensions (SOT-23-6L)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.000	1.200	0.039	0.047
A1	0.000	0.100	0.000	0.004
B	1.700	2.100	0.067	0.083
C	0.080	0.200	0.003	0.008
D	2.700	3.100	0.106	0.122
E	1.300	1.700	0.051	0.067
e1	0.950 TYP.		0.037 TYP.	
F	0.600	0.650	0.024	0.026
HE	2.600	3.000	0.102	0.118
Lp	0.200	0.600	0.008	0.024
bp	0.300	0.500	0.012	0.020

Recommended Pad Layout



Order Information

Device	Package	Marking	Packaging	SPQ
GSBC817-16D	SOT-23-6L	DR	Tape & Reel	3,000 pcs / Reel
GSBC817-25D	SOT-23-6L	DS	Tape & Reel	3,000 pcs / Reel
GSBC817-40D	SOT-23-6L	DT	Tape & Reel	3,000 pcs / Reel