

## GL158

### NPN SILICON PLANAR HIGH CURRENT TRANSISTOR

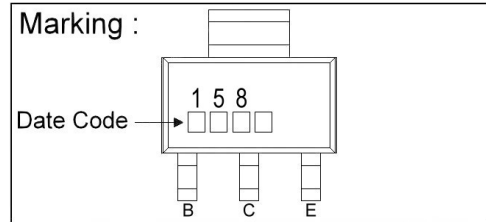
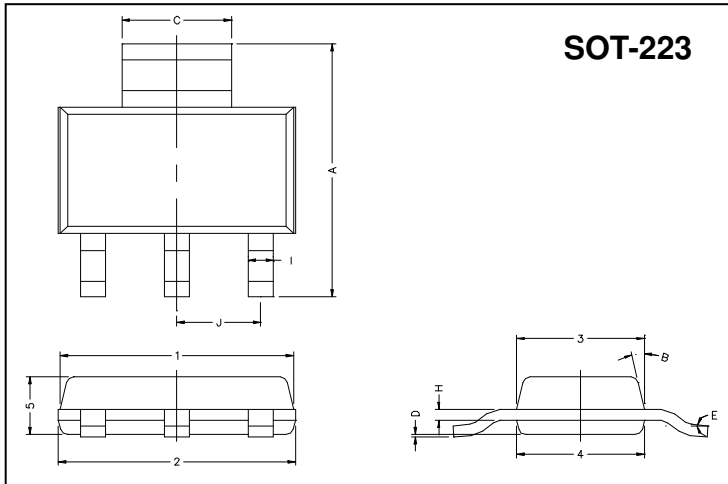
#### Description

The GL158 is designed for general purpose switching and amplifier applications.

#### Features

- 6 Amps continuous current, up to 20Amps peak current
- Excellent gain characteristic specified up to 10Amps
- Very low saturation voltages

#### Package Dimensions



REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	6.70	7.30	B	13° TYP.	
C	2.90	3.10	J	2.30 REF.	
D	0.02	0.10	1	6.30	6.70
E	0°	10°	2	6.30	6.70
I	0.60	0.80	3	3.30	3.70
H	0.25	0.35	4	3.30	3.70
			5	1.40	1.80

#### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Ratings	Unit
Junction Temperature	T <sub>j</sub>	+150	°C
Storage Temperature	T <sub>stg</sub>	-55~+150	°C
Collector to Base Voltage	V <sub>CB0</sub>	150	V
Collector to Emitter Voltage	V <sub>CE0</sub>	60	V
Emitter to Base Voltage	V <sub>EB0</sub>	6	V
Collector Current (DC)	I <sub>C</sub>	6	A
Collector Current (Pulse)	I <sub>c</sub>	20	A
Total Power Dissipation	P <sub>D</sub>	3	W

\*The power which can be dissipated assuming the device is mounted in a typical manner on a P.C.B. with copper equal to 4 square inch minimum.

#### Electrical Characteristics (Ta = 25°C, unless otherwise stated)

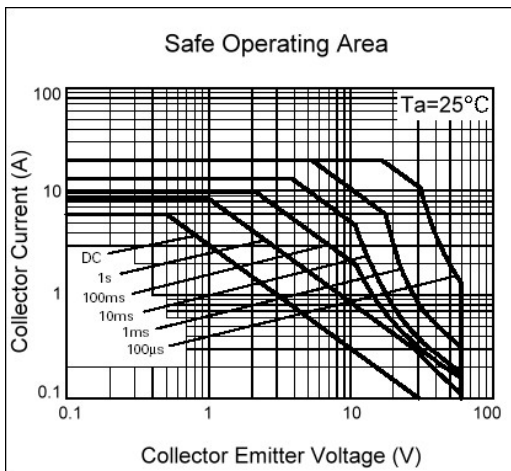
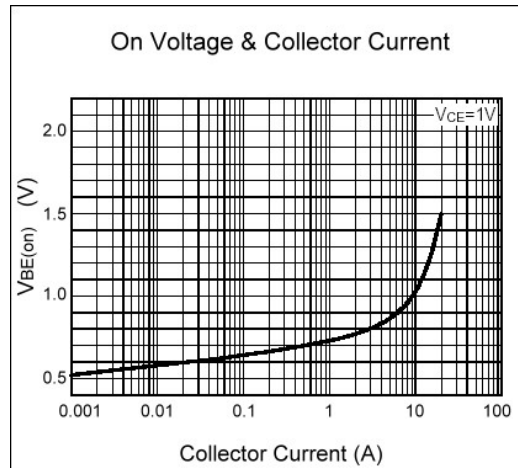
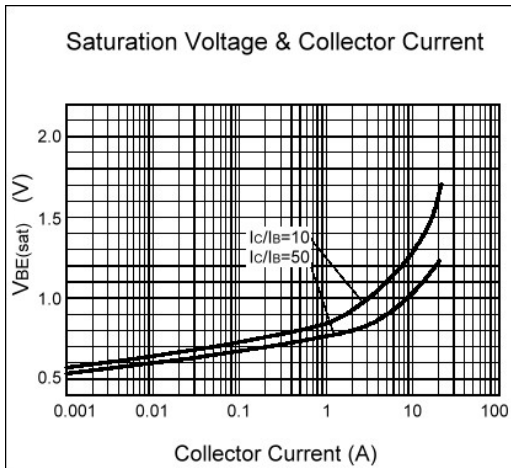
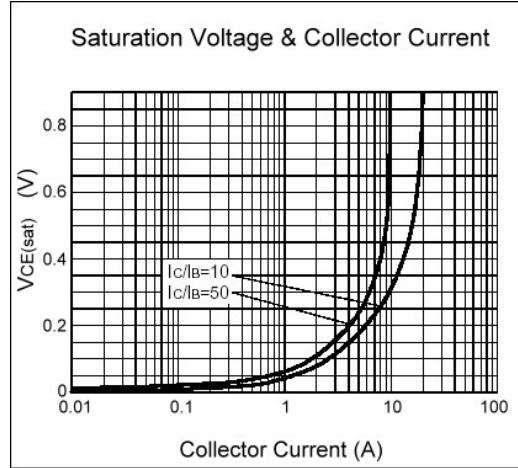
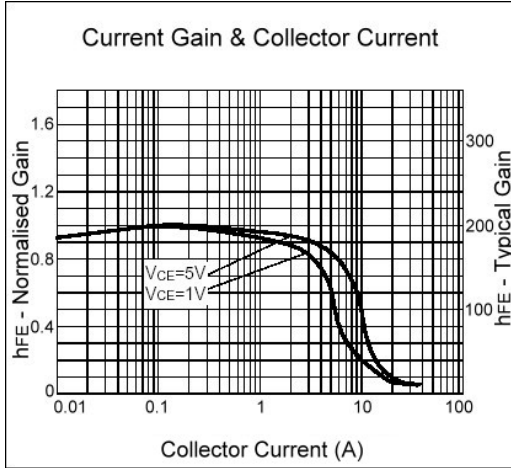
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
V <sub>CB0</sub>	150	-	-	V	I <sub>C</sub> =100uA, I <sub>E</sub> =0
*V <sub>CE0</sub>	60	-	-	V	I <sub>C</sub> =10mA, I <sub>B</sub> =0
V <sub>EB0</sub>	6	-	-	V	I <sub>E</sub> =100uA, I <sub>C</sub> =0
I <sub>CB0</sub>	-	-	50	nA	V <sub>CB</sub> =120V, I <sub>E</sub> =0
I <sub>CES</sub>	-	-	50	nA	V <sub>CE</sub> =60V
I <sub>EB0</sub>	-	-	10	nA	V <sub>EB</sub> =6V, I <sub>C</sub> =0
*V <sub>CE(sat)1</sub>	-	-	50	mV	I <sub>C</sub> =100mA, I <sub>B</sub> =5mA
*V <sub>CE(sat)2</sub>	-	-	100	mV	I <sub>C</sub> =1A, I <sub>B</sub> =50mA
*V <sub>CE(sat)3</sub>	-	-	170	mV	I <sub>C</sub> =2A, I <sub>B</sub> =50mA
*V <sub>CE(sat)4</sub>	-	-	375	mV	I <sub>C</sub> =6A, I <sub>B</sub> =300mA
*V <sub>BE(sat)</sub>	-	-	1.2	V	I <sub>C</sub> =6A, I <sub>B</sub> =300mA
*V <sub>BE(on)</sub>	-	-	1.15	V	V <sub>CE</sub> =1V, I <sub>C</sub> =6A
*h <sub>FE1</sub>	100	-	-		V <sub>CE</sub> =1V, I <sub>C</sub> =10mA
*h <sub>FE2</sub>	100	200	300		V <sub>CE</sub> =1V, I <sub>C</sub> =2A
*h <sub>FE3</sub>	75	-	-		V <sub>CE</sub> =1V, I <sub>C</sub> =5A
*h <sub>FE4</sub>	25	-	-		V <sub>CE</sub> =1V, I <sub>C</sub> =10A
f <sub>T</sub>	-	130	-	MHz	V <sub>CE</sub> =10V, I <sub>C</sub> =100mA, f=50MHz

Cob	-	45	-	pF	V <sub>CB</sub> =10V, I <sub>E</sub> =0, f=1MHz
ton	-	45	-	ns	V <sub>CC</sub> =10V, I <sub>C</sub> =1A, I <sub>B1</sub> =I <sub>B2</sub> =100mA
toff	-	1100	-		

\*Measured under pulse condition. Pulse width ≤ 300μs, Duty Cycle ≤ 2%

Spice parameter data is available upon request for this device.

## Characteristics Curve



**Important Notice:**

- All rights are reserved. Reproduction in whole or in part is prohibited without the prior written approval of GTM.
- GTM reserves the right to make changes to its products without notice.
- GTM semiconductor products are not warranted to be suitable for use in life-support Applications, or systems.
- GTM assumes no liability for any consequence of customer product design, infringement of patents, or application assistance.

**Head Office And Factory:**

- **Taiwan:** No. 17-1 Tatung Rd. Fu Kou Hsin-Chu Industrial Park, Hsin-Chu, Taiwan, R. O. C.
- TEL : 886-3-597-7061 FAX : 886-3-597-9220, 597-0785
- **China:** (201203) No.255, Jang-Jiang Tsai-Lueng RD. , Pu-Dung-Hsin District, Shang-Hai City, China
- TEL : 86-21-5895-7671 ~ 4 FAX : 86-21-38950165