

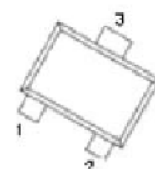
**SOT-723**

**Features**

- Epitaxial planar die construction
- Surface device type mounting
- Moisture sensitivity level 1
- Low  $C_{ob}$
- Pb free version and RoHS compliant
- Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code
- Complements the 2SA2029

**Mechanical Data**

- Case : SOT-723 small outline plastic package per MIL-STD-202, Method 208 guaranteed
- High temperature soldering guaranteed: 260°C/10s



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

**Ordering Information (example)**

Part No.	Package	Packing	Packing code	Packing code (Green)	Marking
2SC5658-Q	SOT-723	8K / 7" Reel	RM	RMG	BQ

**Maximum Ratings and Electrical Characteristics**

Rating at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Limits	Units
Collector Base Voltage	$V_{CBO}$	60	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_C$	150	mA
Collector Dissipation	$P_C$	100	mW
Junction Temperature	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	- 55 to + 150	°C

Characteristics at  $T_A=25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Units
Collector Base Breakdown Voltage at $I_C=50\mu\text{A}, I_E=0$	$V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $I_C=1\text{mA}, I_B=0$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E=50\mu\text{A}, I_C=0$	$V_{(BR)EBO}$	7	-	-	V
Collector Cutoff Current at $V_{CB}=60\text{V}, I_E=0$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Emitter Cutoff Current at $V_{EB}=7\text{V}, I_C=0$	$I_{EBO}$	-	-	0.1	$\mu\text{A}$
DC Current Transfer ratio at $V_{CE}=6\text{V}, I_C=1\text{mA}$	$h_{FE}$	120	-	560	
Collector Emitter Saturation Voltage at $I_C=50\text{mA}, I_B=5\text{mA}$	$V_{CE(sat)}$	-	-	0.4	V
Transition Frequency at $V_{CE}=12\text{V}, I_C=2\text{mA}, f=100\text{MHz}$	$f_T$	-	180	-	MHz
Output Capacitance at $V_{CB}=12\text{V}, f=1\text{MHz}$	$C_{ob}$	-	-	3.5	pF

Classification of  $h_{FE}$

Rank	Q	R	S
Range	120~270	180~390	270~560

Small Signal Product

FIG.1 Static Characteristic

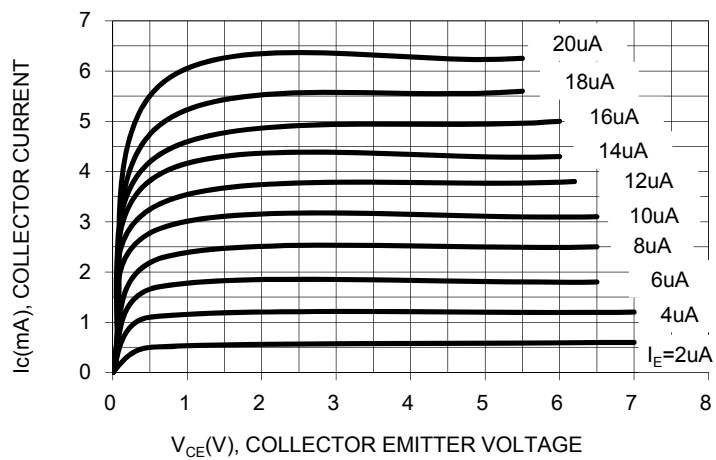


FIG. 2  $h_{FE} - I_C$

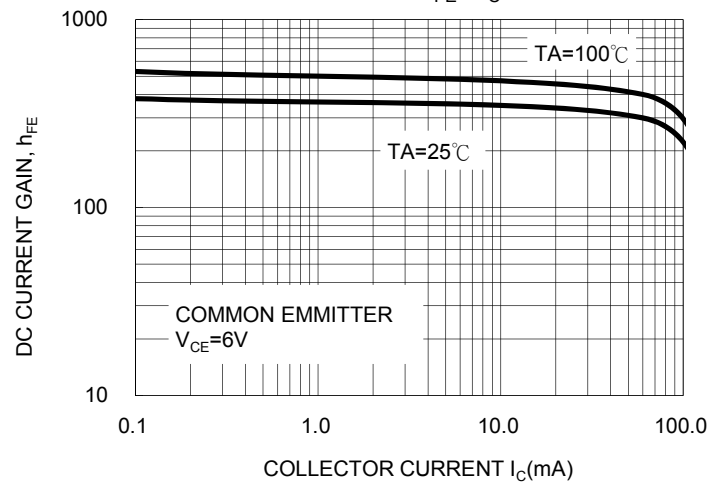


FIG. 3  $V_{BE(sat)} - I_C$

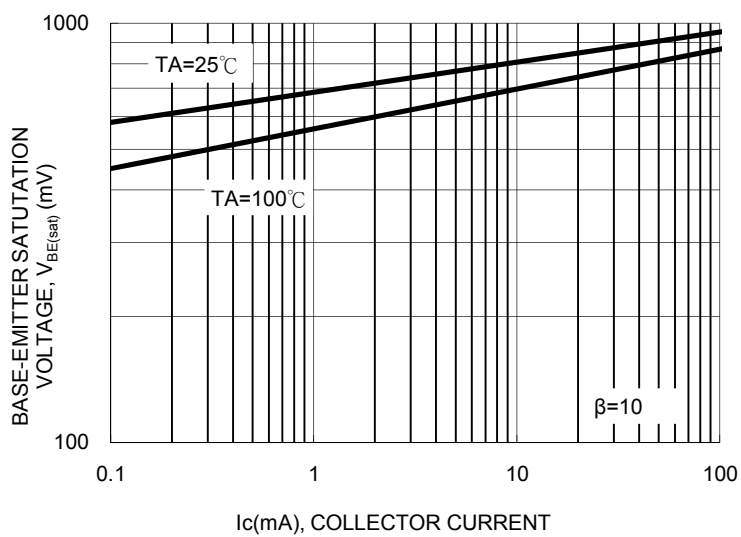


FIG. 4  $V_{CE(sat)} - I_C$

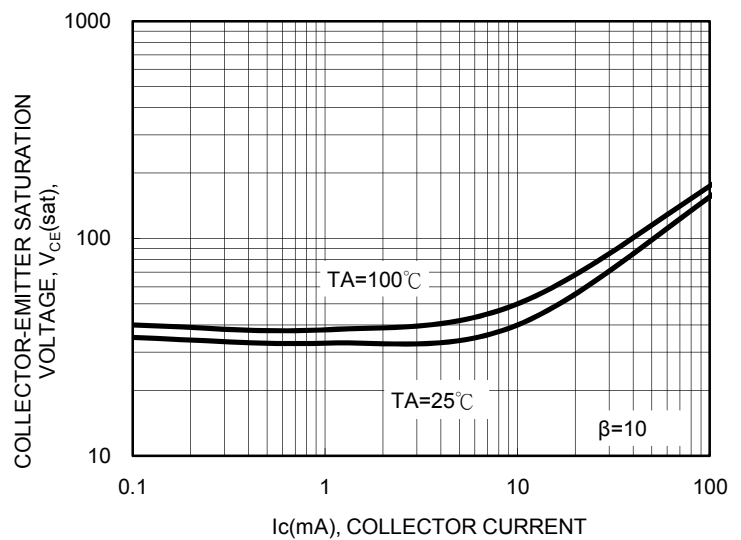


FIG. 5  $I_C - V_{BE}$

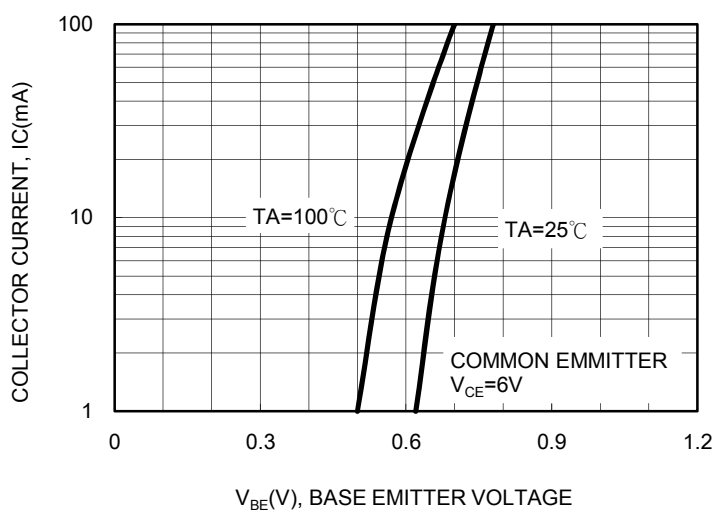


FIG. 6  $f_T - I_C$

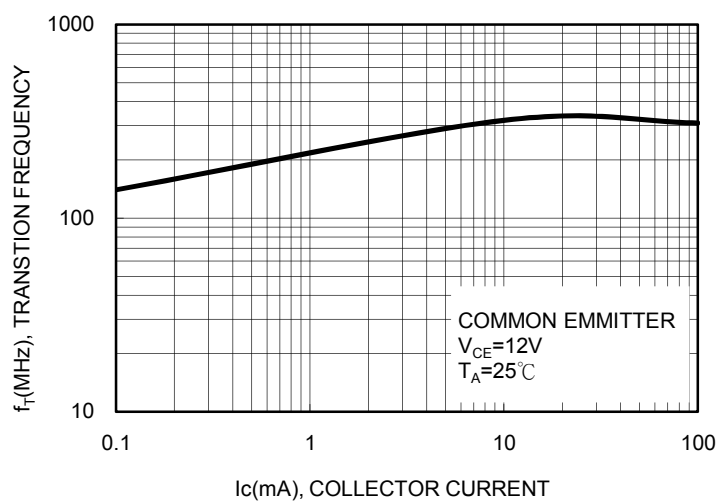
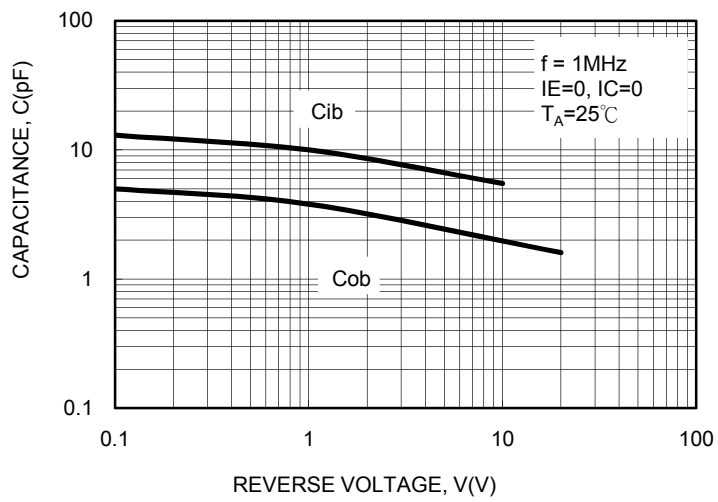
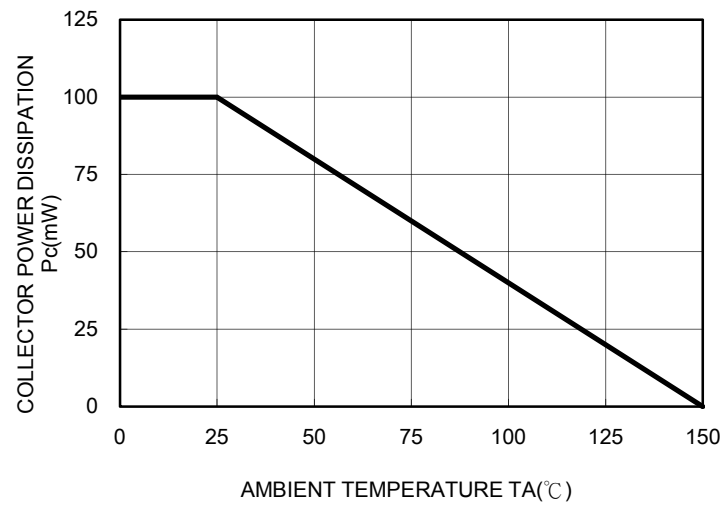
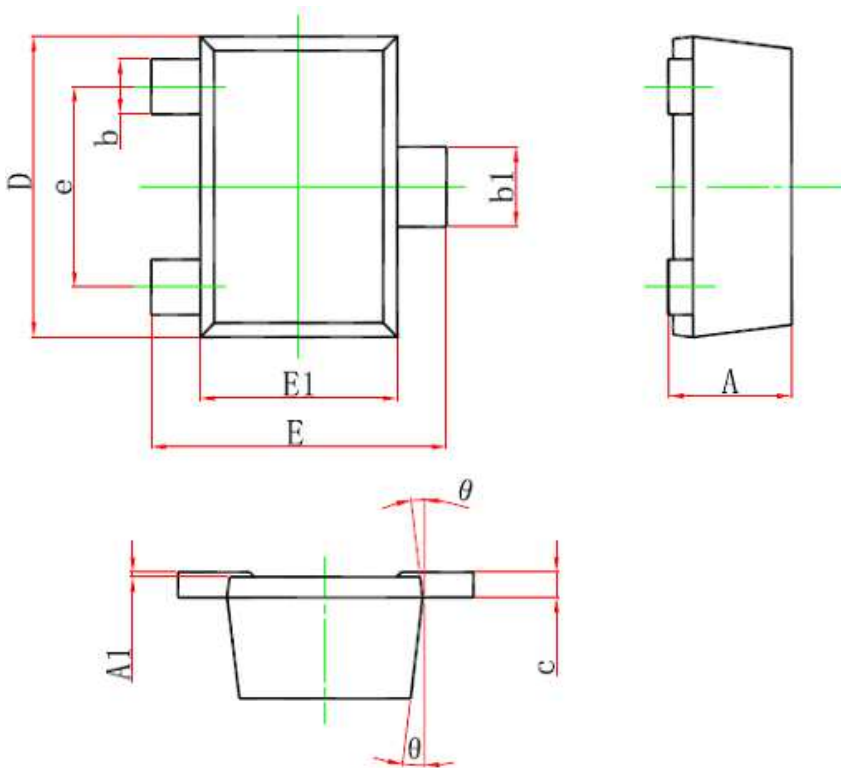


FIG. 7 Cob/Cib -  $V_{CB}/V_{EB}$ 

 FIG. 8  $P_C - T_A$ 

**Ordering information**

Part No.	Package	Packing	Packing code	Packing code (Green)	Marking
2SC5658-Q	SOT-723	8K / 7" Reel	RM	RMG	BQ
2SC5658-R	SOT-723	8K / 7" Reel	RM	RMG	BR
2SC5658-S	SOT-723	8K / 7" Reel	RM	RMG	BS

**Dimensions**


DIM.	Unit(mm)		Unit(inch)	
	Min	Max	Min	Max
A	-	0.50	-	0.020
A1	0.00	0.05	0.000	0.002
b	0.17	0.27	0.007	0.011
b1	0.27	0.37	0.011	0.015
c	-	0.150	-	0.006
D	1.15	1.25	0.045	0.049
E	1.15	1.25	0.045	0.049
E1	0.75	0.85	0.030	0.033
e	0.80		0.031	
$\theta$	7° REF		7° REF	

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Datasheets for electronic components.