

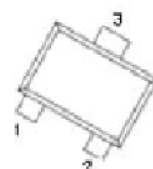
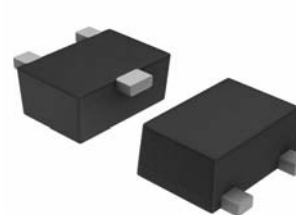
SOT-723

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	uA
Emitter Cutoff Current at $V_{EB}=7\text{V}$, $I_C=0$	I_{EBO}	-	-	0.1	uA
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

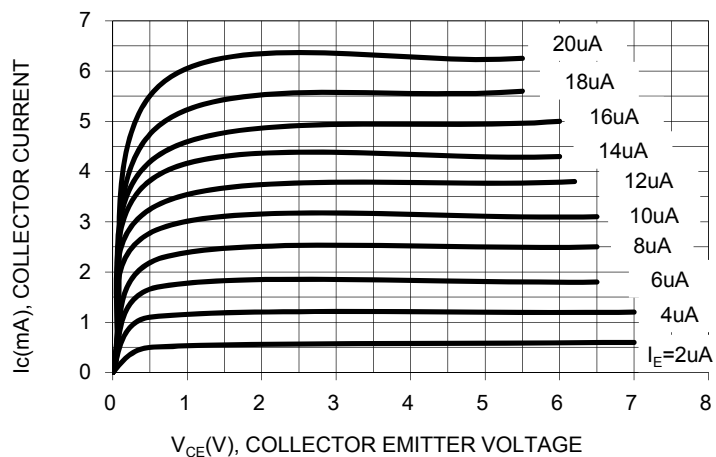


FIG. 2 $h_{FE} - I_C$

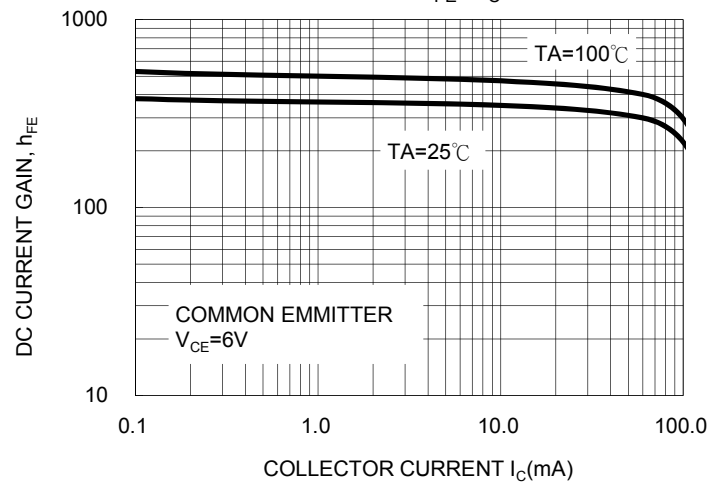


FIG. 3 $V_{BE(sat)} - I_C$

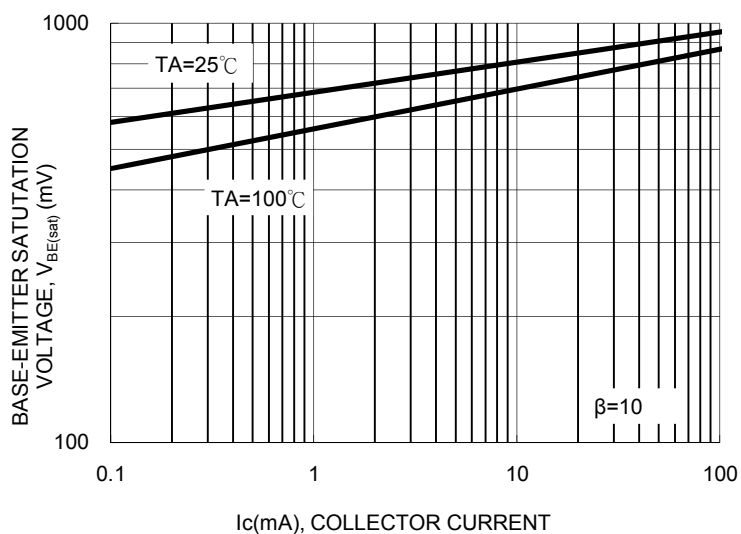


FIG. 4 $V_{CE(sat)} - I_C$

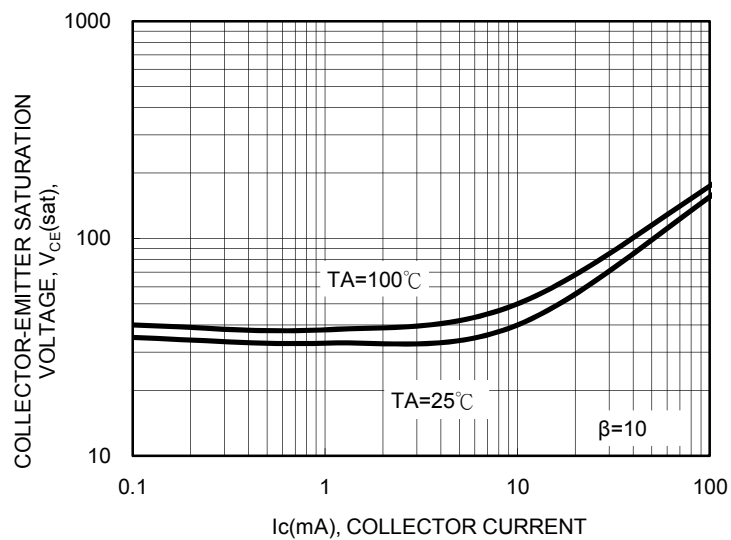


FIG. 5 $I_C - V_{BE}$

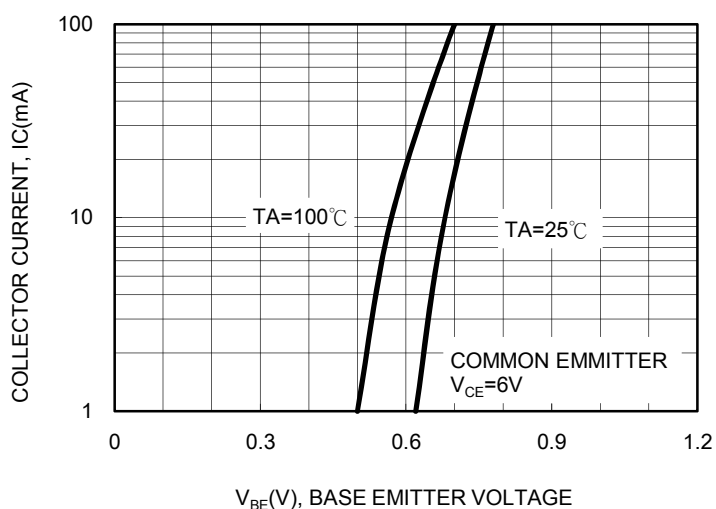


FIG. 6 $f_T - I_C$

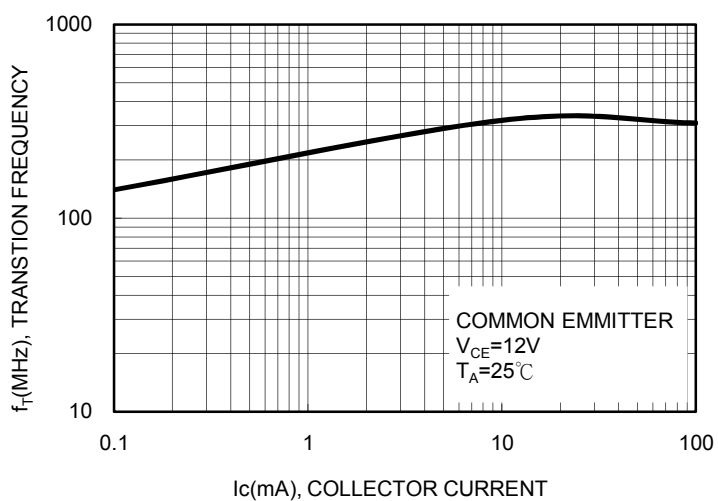
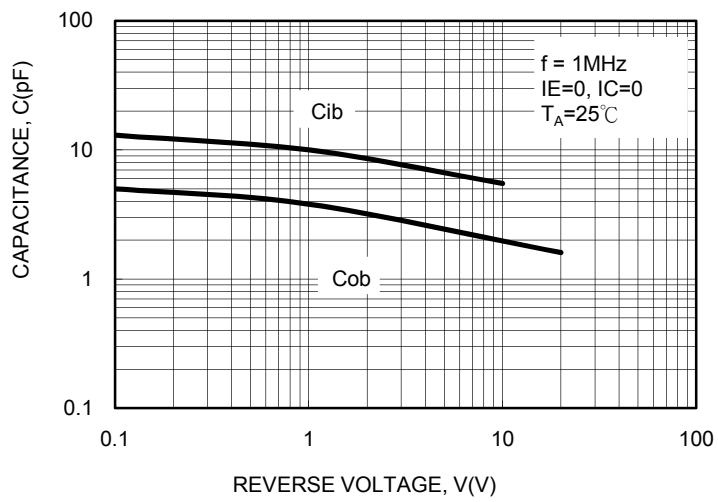
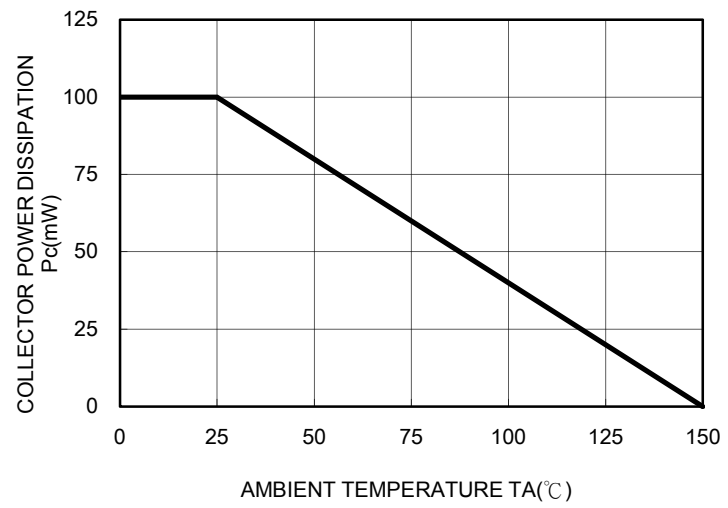
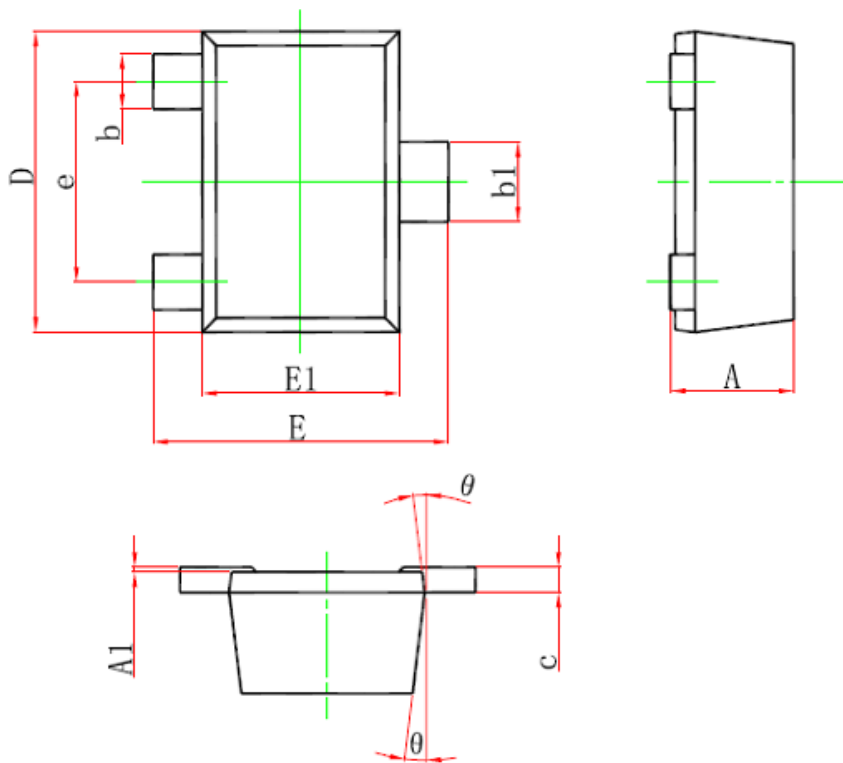


FIG. 7 Cob/Cib - V_{CB}/V_{EB}

 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	
θ	7° REF		7° REF	