

FEATURES

Low C_{ob}

Complements the 2SA2029

SOT-723



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

Marking: BQ, BR, BS

Absolute maximum ratings ($T_a=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Limit	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current -Continuous	150	mA
P_C	Collector Dissipation	100	mW
T_J, T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	$^\circ\text{C}$

Electrical characteristics ($T_a=25^\circ\text{C}$ unless otherwise specified)

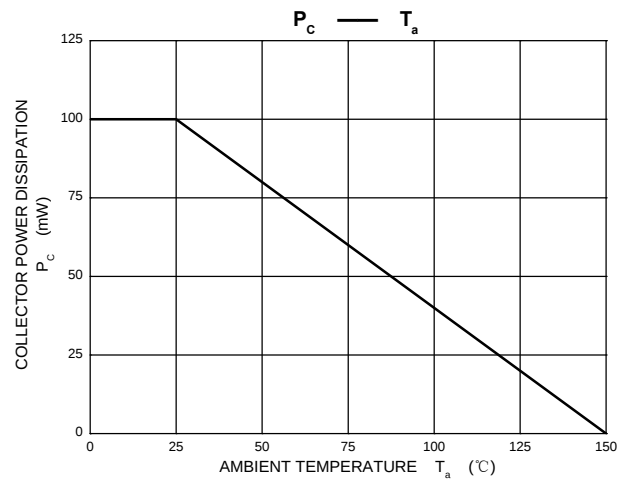
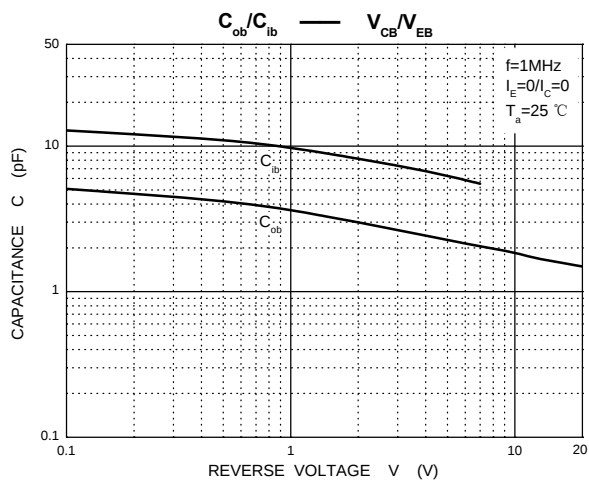
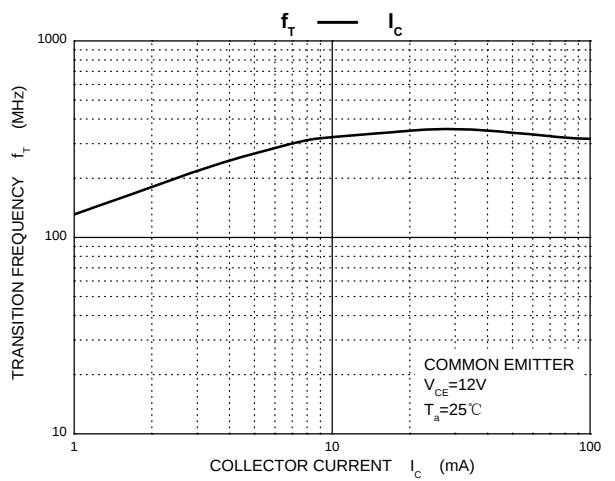
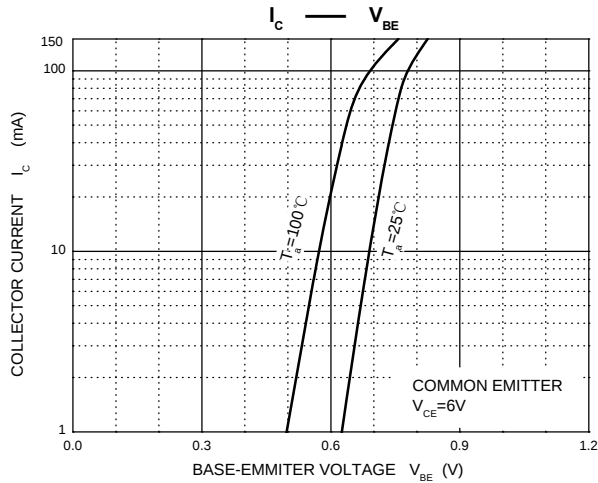
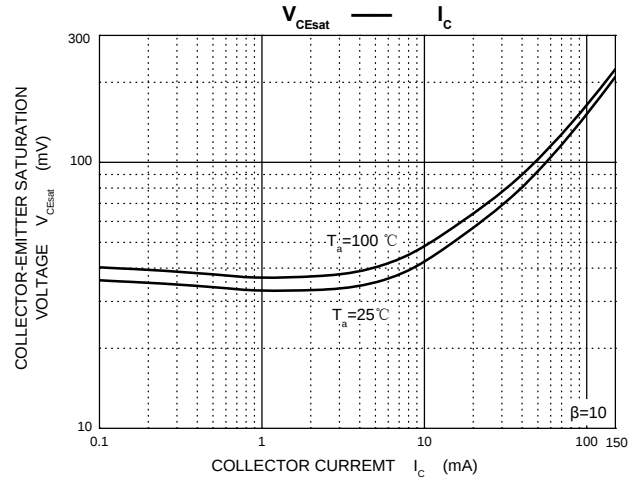
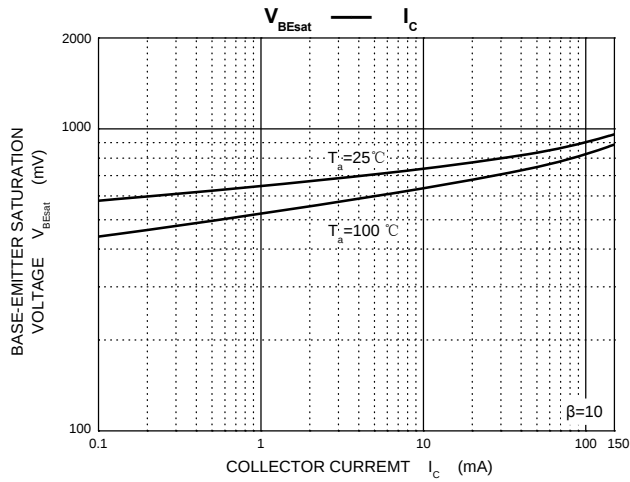
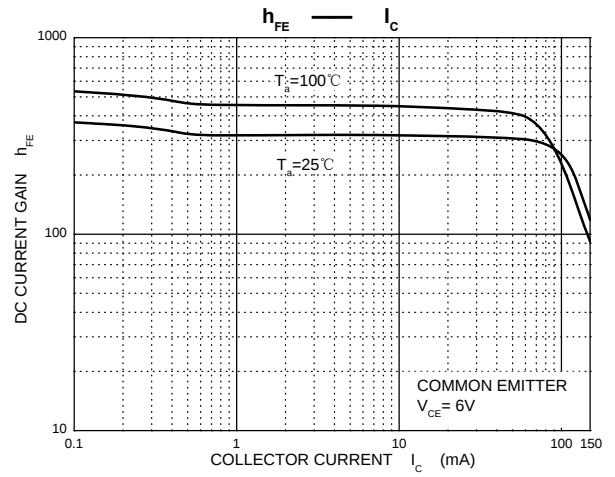
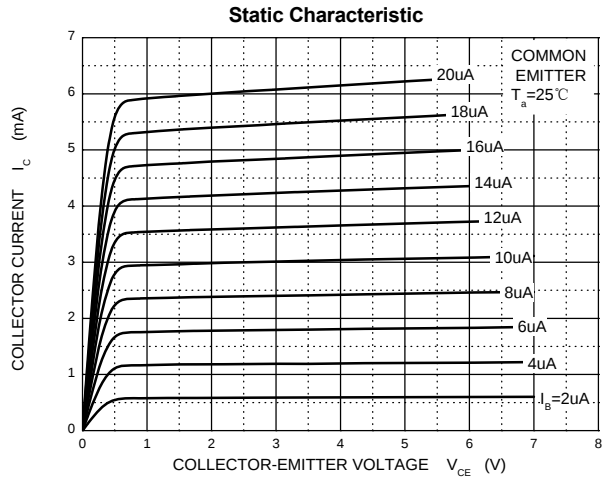
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	7			V
Collector cut-off current	I_{CBO}	$V_{CB}=60\text{V}, I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=7\text{V}, I_C=0$			0.1	μA
DC current transfer ratio	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	$V_{CE}=12\text{V}, I_C=2\text{mA}, f=100\text{MHz}$		180		MHz
Output capacitance	C_{ob}	$V_{CB}=12\text{V}, I_E=0, f=1\text{MHz}$			3.5	pF

Classification of h_{FE}

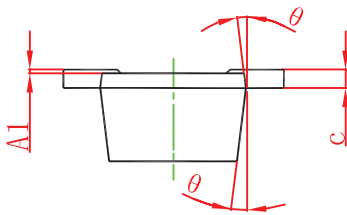
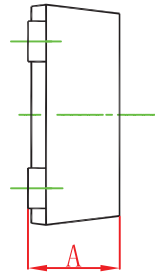
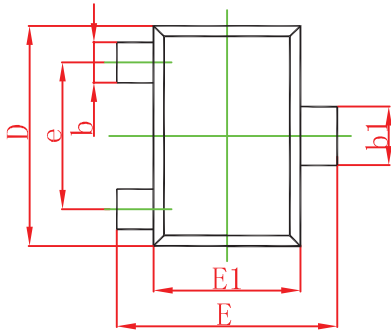
Rank	Q	R	S
Range	120~270	180~390	270~560

Typical Characteristics

General purpose transistors (NPN)

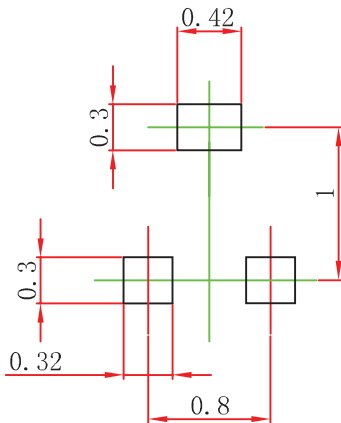


SOT-723 package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		0.500		0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c		0.150		0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

SOT-723 Suggested pad Layout



Note:
 1. Controlling dimension: in millimeters.
 2. General tolerance: ± 0.05 mm.
 3. The pad layout is for reference purposes only.