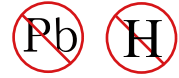




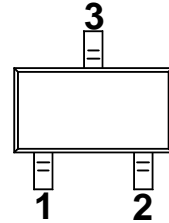
General Purpose Transistors



MAXIMUM RATINGS

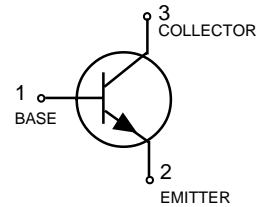
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	50	V
Collector-Base Voltage	V_{CBO}	60	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector current-continuoun	I_C	150	mA

SOT-23 (TO-236AB)



THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C/W}$
Total Device Dissipation Alumina Substrate, (2) $T_A=25^\circ\text{C}$ Derate above 25°C	P_D	300	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	$^\circ\text{C}$



DEVICE MARKING

2SC1623Q=L5	2SC1623R=L6	2SC1623S=L7
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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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OFF CHARACTERISTICS

Collector Cutoff Current ($V_{CB}=60\text{V}$)	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current ($V_{BE}=5\text{V}$)	I_{EBO}	-	-	0.1	μA

DEVICE CHARACTERISTICS

2SC1623Q/R/S

ON CHARACTERISTICS

DC Current Gain ($I_c=1.0\text{mA}$, $V_{CE}=6\text{V}$)	h_{FE}	120	-	560	
Collector-Emitter Saturation Voltage ($I_c=100\text{mA}$, $I_b=10\text{mA}$)	$V_{CE(sat)}$	-	0.15	0.3	V
Base-Emitter Saturation Voltage ($I_c=100\text{mA}$, $I_b=10\text{mA}$)	$V_{BE(sat)}$	-	0.86	1.0	V
Base -Emitter On Voltage ($I_c=1\text{mA}$, $V_{CE}=6.0\text{V}$)	V_{BE}	0.55	0.62	0.65	V

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product ($V_{CE}=6.0\text{V}$, $I_E=1.0\text{MHz}$)	F_t	-	250	-	MHz
Output Capacitance($V_{CE}=6\text{V}$, $I_E=0$, $f=1.0\text{MHz}$)	C_{ob}	-	3	-	Pf

h_{FE} Values are classified as follows

NOTE:

*	Q	R	S
h_{FE}	120~270	180~390	270~560

DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
2SC1623Q	L5	3000/Tape&Reel
2SC1623R	L6	
2SC1623S	L7	

DEVICE CHARACTERISTICS

2SC1623Q/R/S

Fig.1 Grounded emitter propagation characteristics

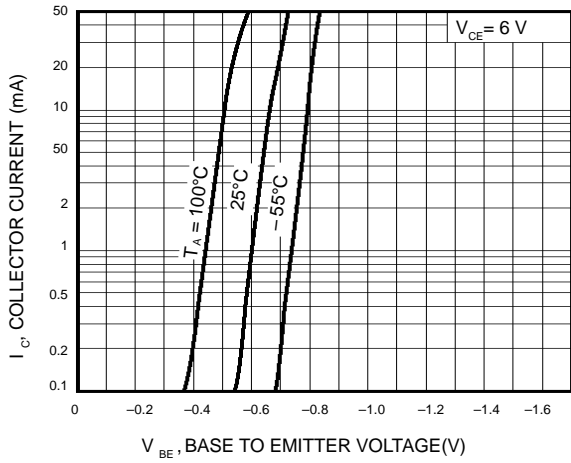


Fig.2 Grounded emitter output characteristics(I)

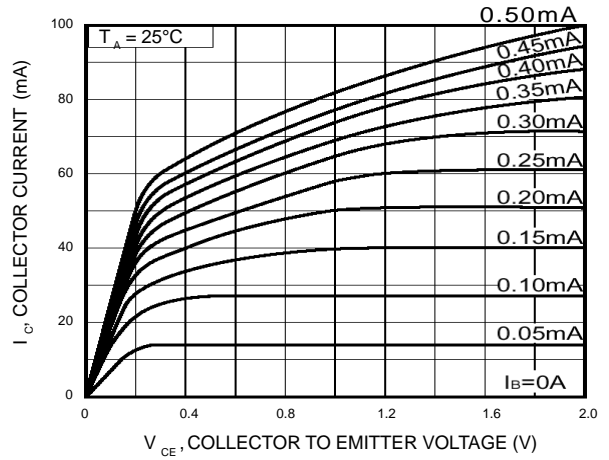


Fig.3 Grounded emitter output characteristics(II)

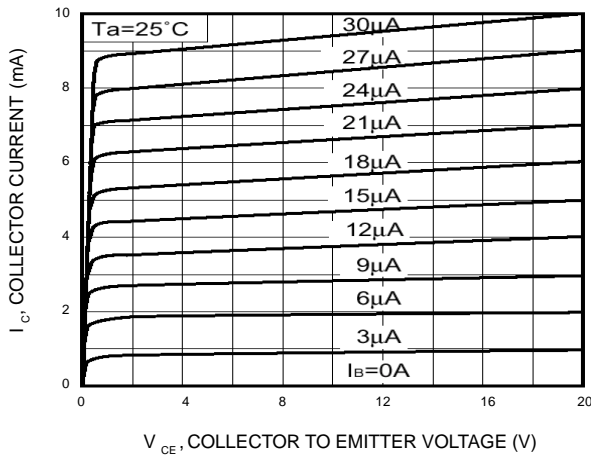


Fig.4 DC current gain vs. collector current (I)

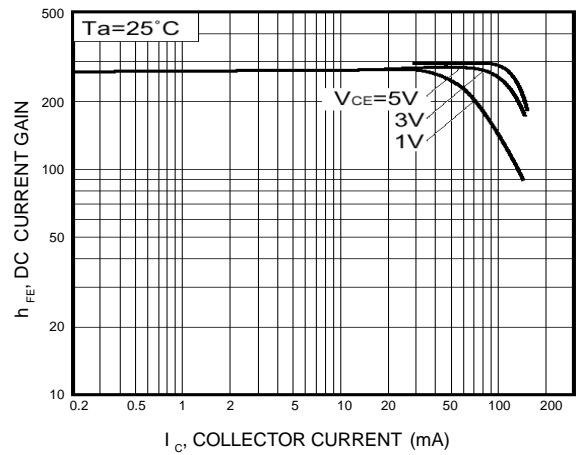


Fig.5 DC current gain vs. collector current (II)

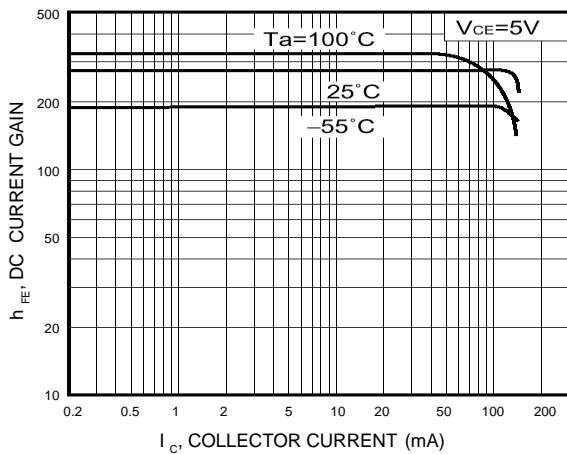
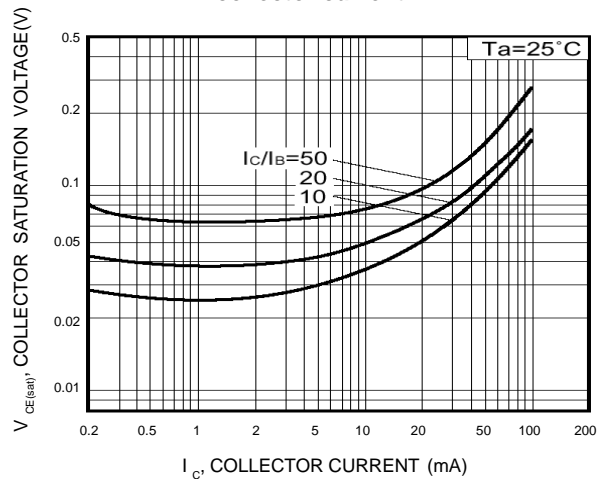


Fig.6 Collector-emitter saturation voltage vs. collector current



DEVICE CHARACTERISTICS

2SC1623Q/R/S

Fig.7 Collector-emitter saturation voltage vs. collector current (I)

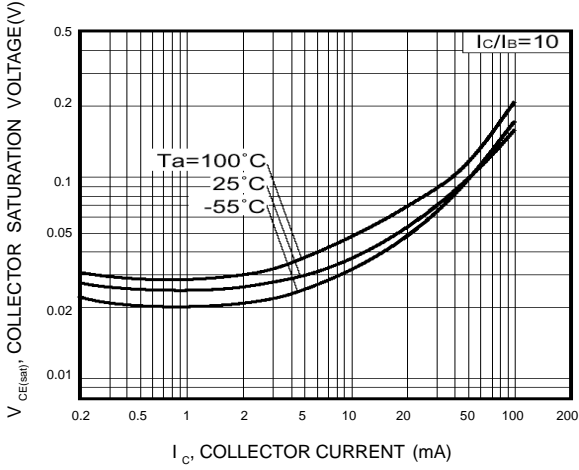


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

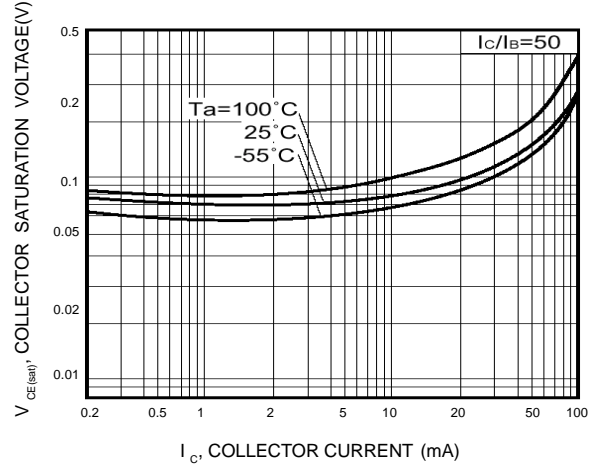
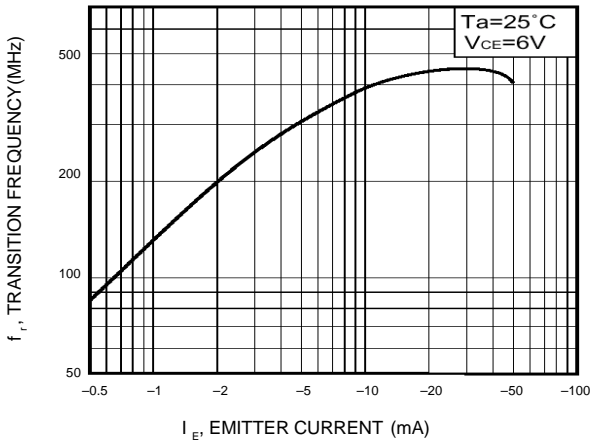


Fig.9 Gain bandwidth product vs. emitter current



**Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage**

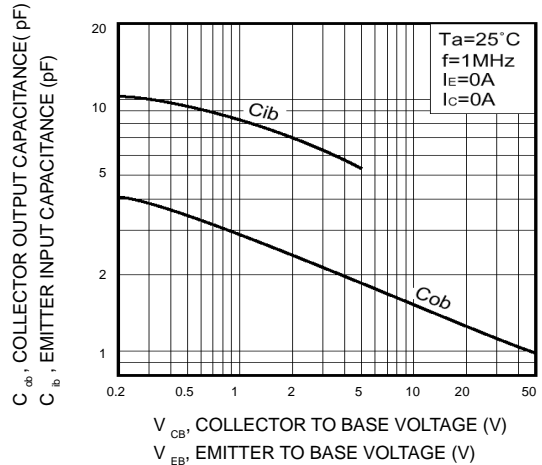
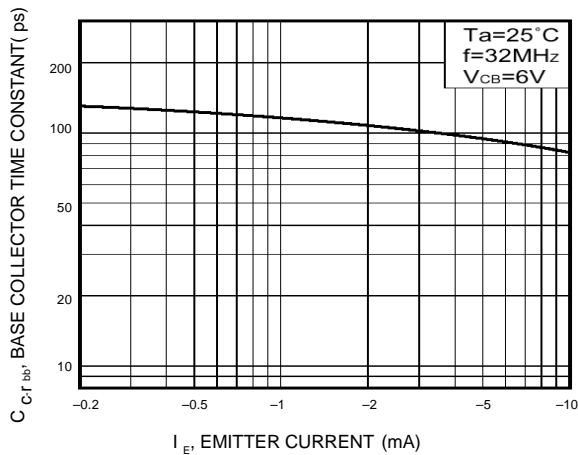


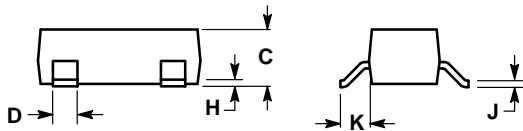
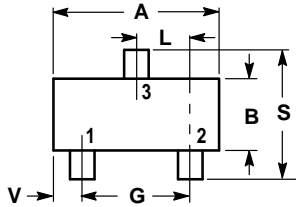
Fig.11 Base-collector time constant vs. emitter current



PACKAGE OUTLINE & DIMENSIONS

2SC1623Q/R/S

SOT-23



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0140	0.0285	0.35	0.69
L	0.0350	0.0401	0.89	1.02
S	0.0830	0.1039	2.10	2.64
V	0.0177	0.0236	0.45	0.60

- PIN 1. BASE
 2. EMITTER
 3. COLLECTOR

