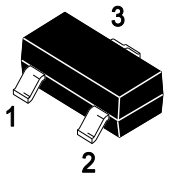
General Purpose Transistors

2SC1623
Series
S-2SC1623
Series

Pb-Free package is available
S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.



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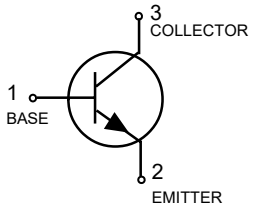
DEVICE MARKING AND ORDERING INFORMATION

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

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	mAdc



THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) T_A=25°C Derate above 25°C	P_D	 225 1.8	 mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, (2) TA=25 °C Derate above 25°C	P_D	 300 2.4	 mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	Tj ,Tstg	-55 to +150	°C

DEVICE MARKING

2SC1623Q=L5 2SC1623R=L6 2SC1623S=L7

ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector Cutoff Current (V_{CB}=60V)	I_{CBO}	-	-	0.1	μA
Emitter Cutoff Current (V_{BE}=5V)	I_{EBO}			0.1	μA

ON CHARACTERISTICS

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

SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (V_{CE}=6.0V,I_E =-10mA)	F_t	-	250	-	MHz
Output Capacitance(V_{CE} = 6V, I_E=0, f=1.0MHz)	C_{ob}	-	3	-	P_f

h_{FE} Values are classified as followes

NOTE:

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

Fig.1 Grounded emitter propagation characteristics

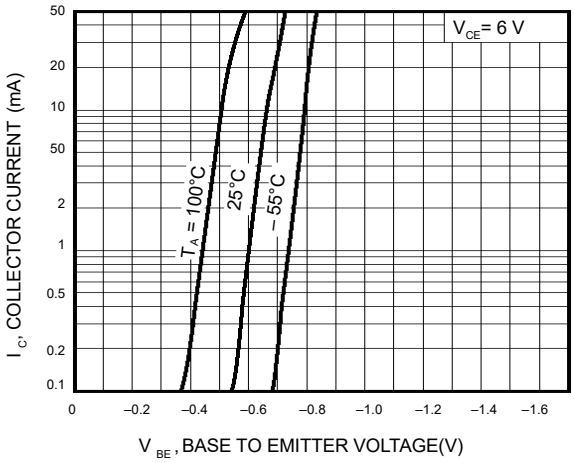


Fig.2 Grounded emitter output characteristics(Ⅰ)

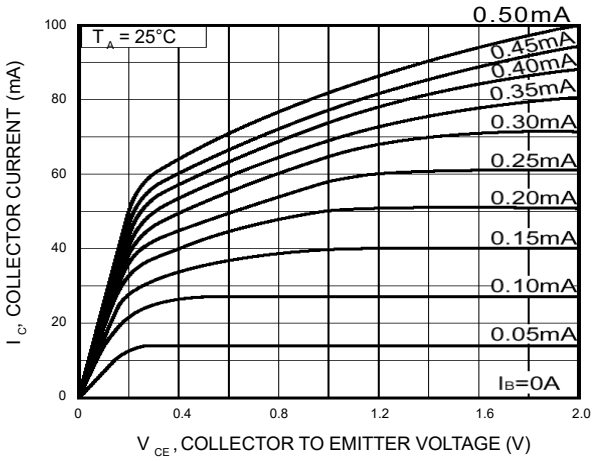


Fig.3 Grounded emitter output characteristics(Ⅱ)

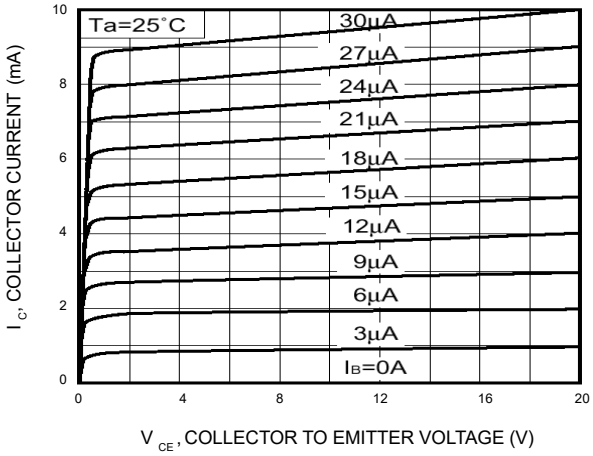


Fig.4 DC current gain vs. collector current (Ⅰ)

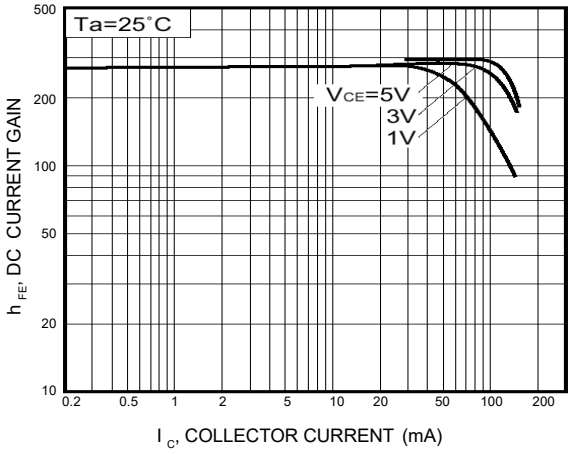


Fig.5 DC current gain vs. collector current (Ⅱ)

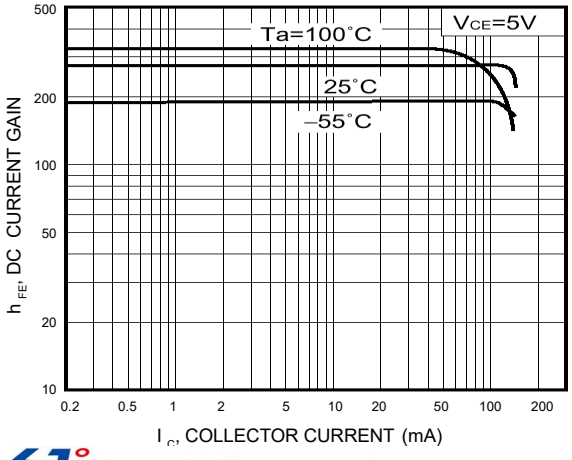


Fig.6 Collector-emitter saturation voltage vs. collector current

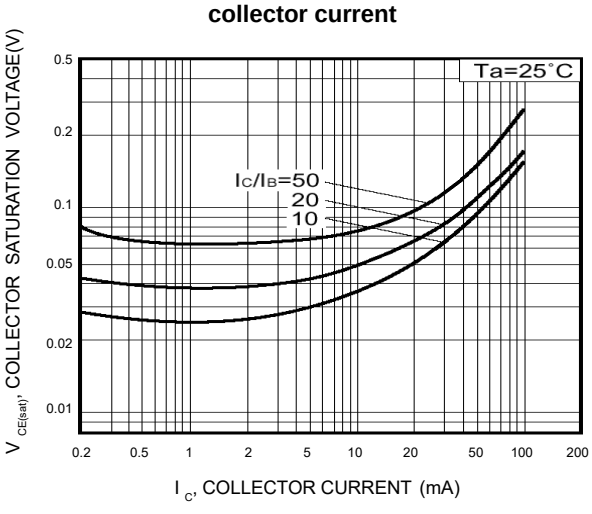


Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅰ)

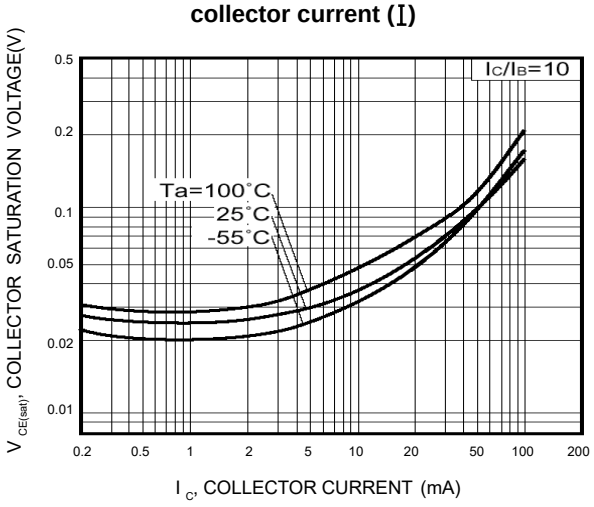


Fig.8 Collector-emitter saturation voltage vs. collector current (Ⅱ)

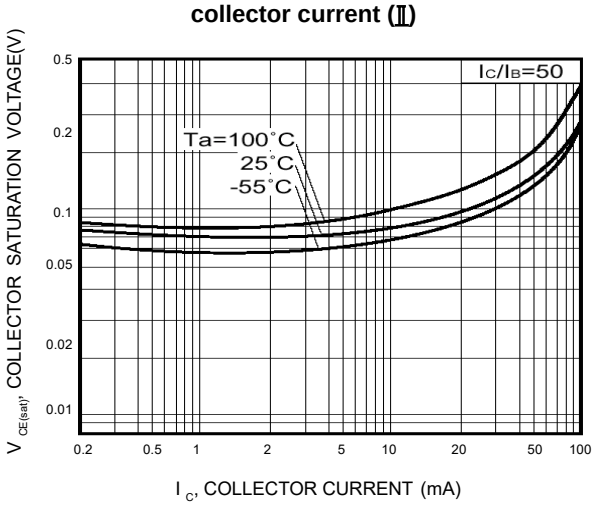


Fig.9 Gain bandwidth product vs. emitter current

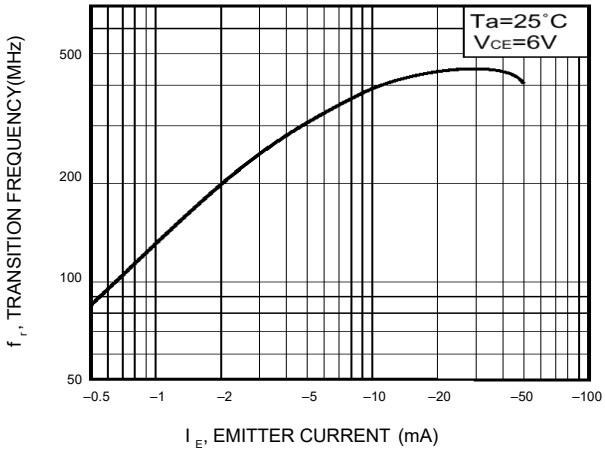


Fig.10 Collector output capacitance vs.collector-base voltage Emitter inputcapacitance vs. emitter-base voltage

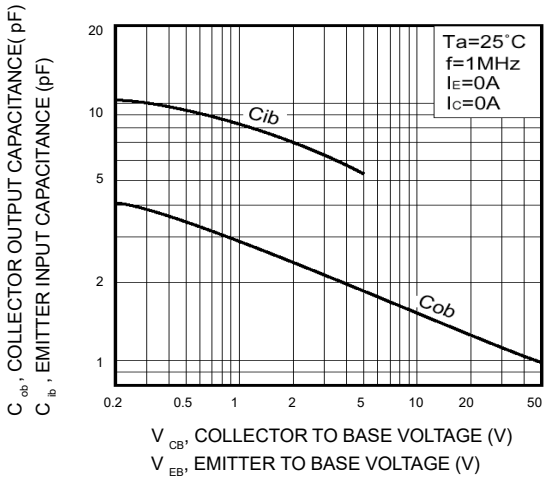
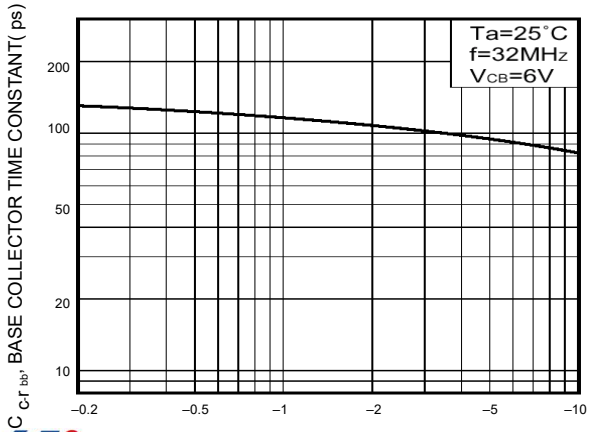


Fig.11 Base-collector time constant vs.emitter current



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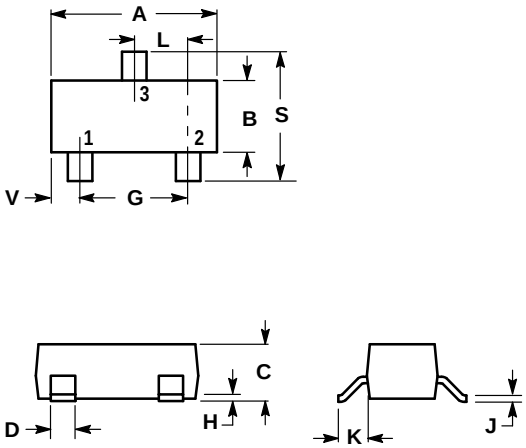

NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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