General Purpose Transistors

NPN Silicon

2SC4617XT1G

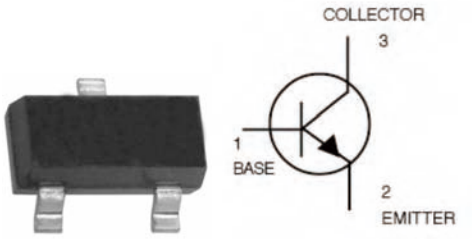
We declare that the material of product compliance with RoHS requirements

MECHANICAL DATA

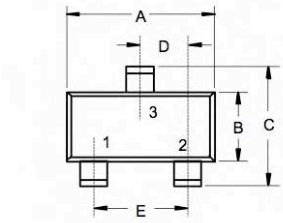
* Case: SOT-523 Molded plastic

* Epoxy: UL94V-O rate flame retardant

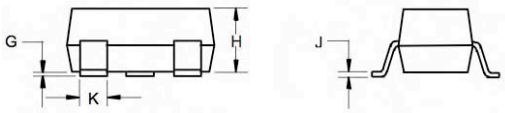
SOT-523



SOT-523



1. Base
2. Emitter
3. Collector



DIMENSIONS					
	INCHES		MM		
DIM	MIN	MAX	MIN	MAX	NOTE
A	.059	.067	1.50	1.70	
B	.030	.033	0.75	0.85	
C	.057	.069	1.45	1.75	
D	.020 Nominal		0.50Nominal		
E	.035	.043	0.90	1.10	
G	.000	.004	.000	.100	
H	.028	.031	.70	0.80	
J	.004	.008	.100	.200	
K	.010	.014	.25	.35	

Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
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	0.15	A
Collector power dissipation	P_C	0.15	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	−55~+150	°C

Device marking

2SC4617QT1G=BQ	2SC4617RT1G=BR	2SC4617ST1G=BS

Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	60	–	–	V	I_C=50μA
Collector-emitter breakdown voltage	BV_{CEO}	50	–	–	V	I_C=1μA
Emitter-base breakdown voltage	BV_{EBO}	7	–	–	V	I_E=50μA
Collector cutoff current	I_{CBO}	–	–	0.1	μA	V_{CB}=60V
Emitter cutoff current	I_{EBO}	–	–	0.1	μA	V_{EB}=7V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.5	V	I_C/I_B=50mA/5mA
DC current transfer ratio	h_{FE}	120	–	560	–	V_{CE}=6V, I_C=1mA
Transition frequency	f_T	–	180	–	MHz	V_{CE}=12V, I_E=2mA, f=30MHz
Output capacitance	Cob	–	2.0	3.5	pF	V_{CB}=12V, I_E=0A, f=1MHz

hFE values are classified as follows:

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

ORDERING INFORMATION

Device	Marking	Shipping
2SC4617QT1G	BQ	3000 Tape & Reel
2SC4617QT3G	BQ	10000 Tape & Reel
2SC4617RT1G	BR	3000 Tape & Reel
2SC4617RT3G	BR	10000 Tape & Reel
2SC4617ST1G	BS	3000 Tape & Reel
2SC4617ST3G	BS	10000 Tape & Reel

RATINGS AND CHARACTERISTIC CURVES

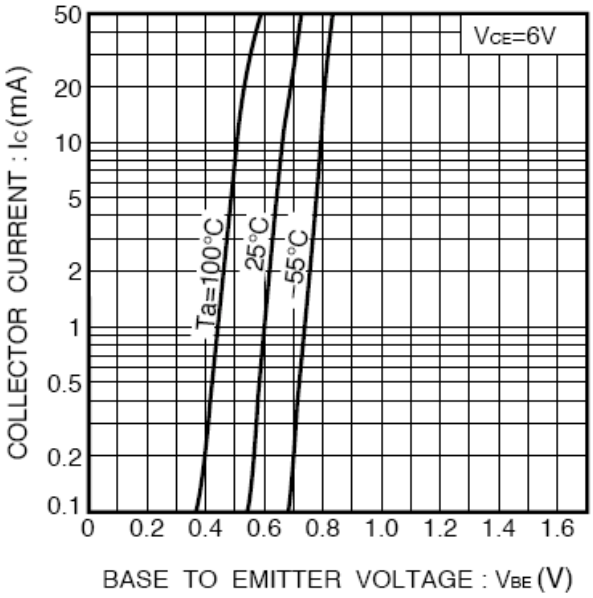


Fig.1 Grounded emitter propagation characteristics

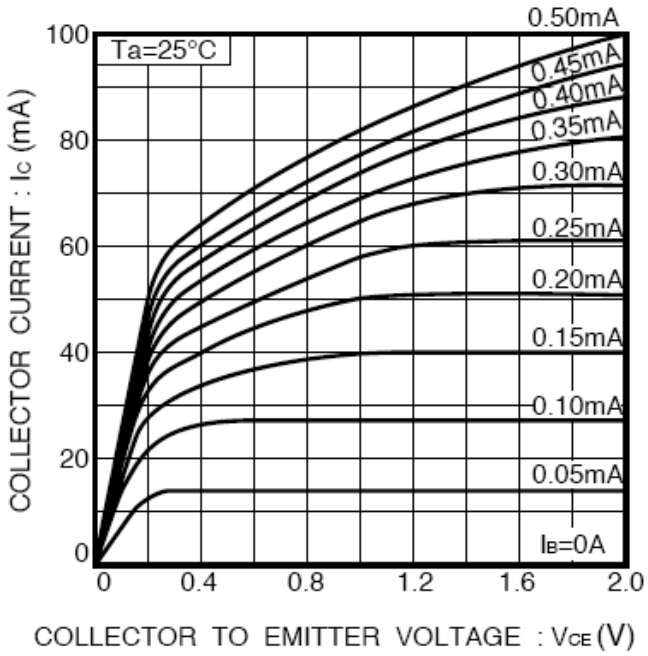


Fig.2 Grounded emitter output characteristics (I)

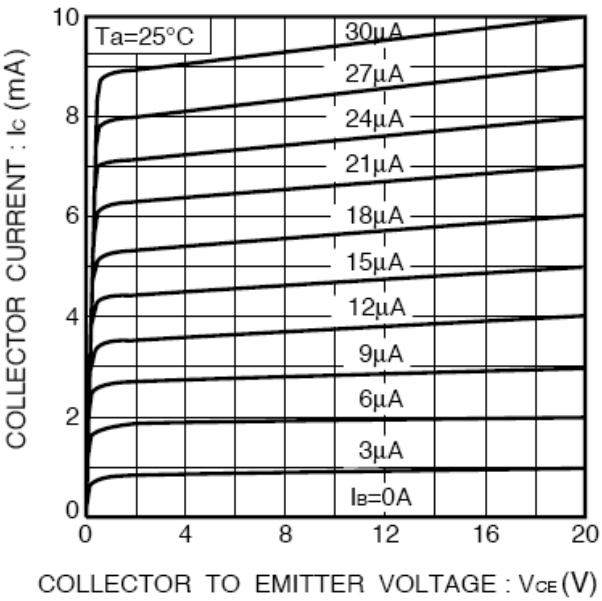


Fig.3 Grounded emitter output characteristics (II)

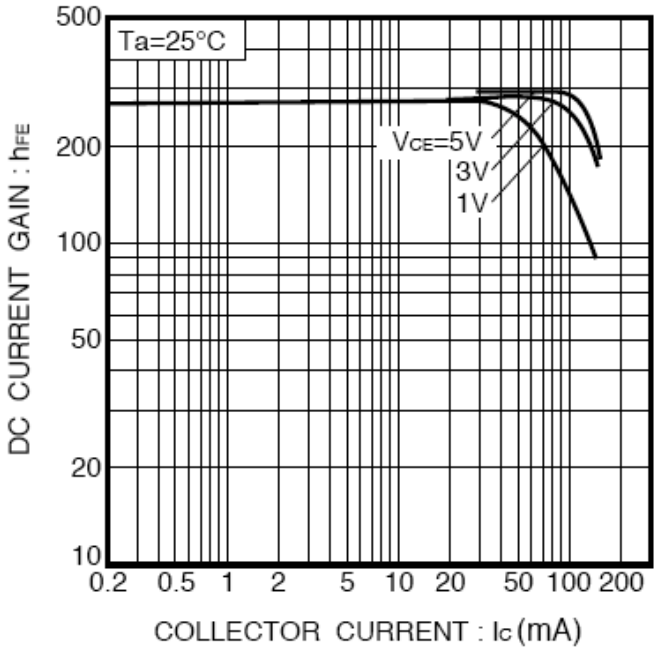


Fig.4 DC current gain vs. collector current (I)

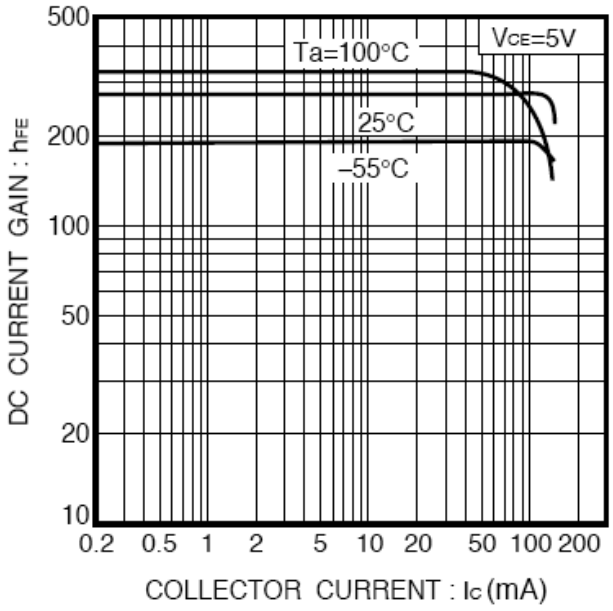


Fig.5 DC current gain vs. collector current (II)

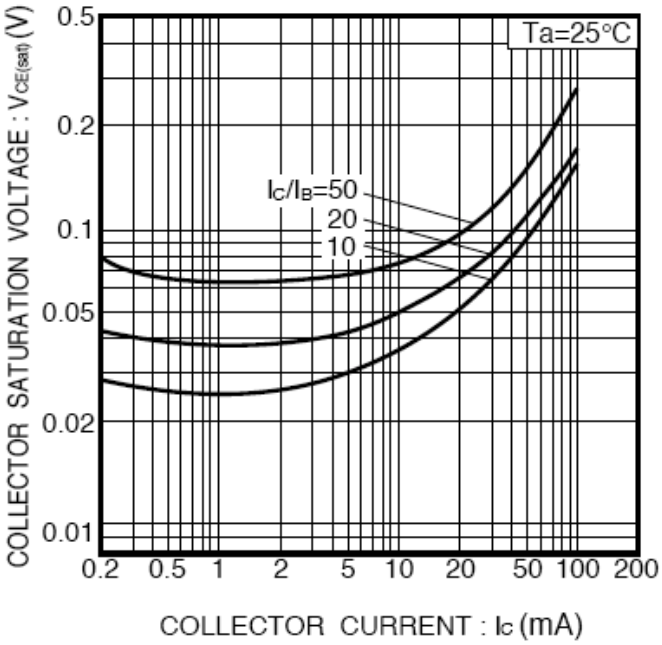


Fig. 6 Collector-emitter saturation voltage vs. collector current

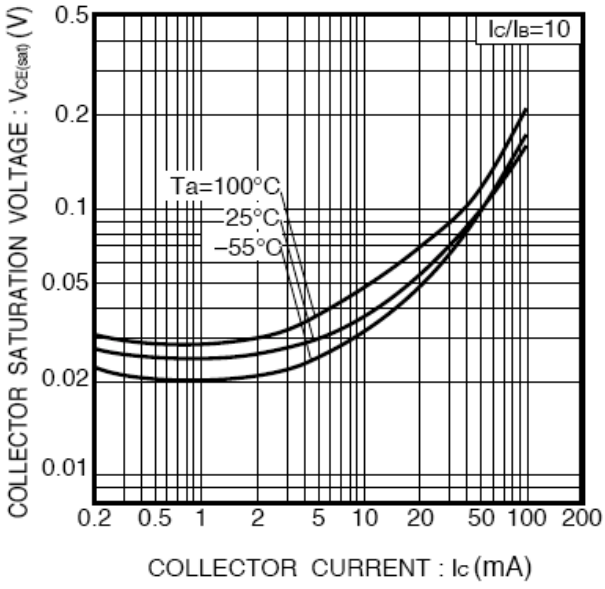


Fig.7 Collector-emitter saturation voltage vs. collector current (I)

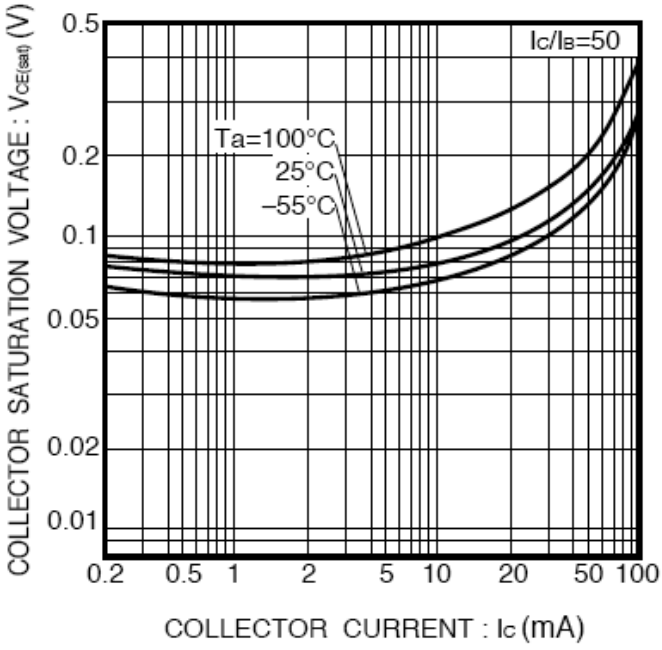


Fig.8 Collector-emitter saturation voltage vs. collector current (II)

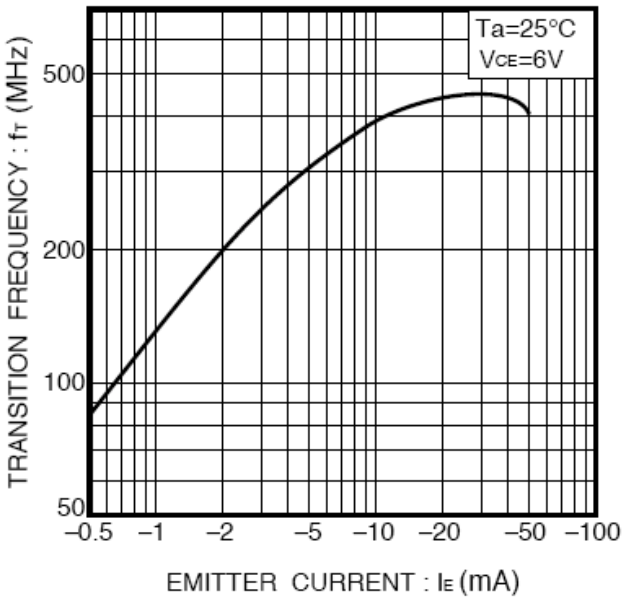


Fig.9 Gain bandwidth product vs. emitter current

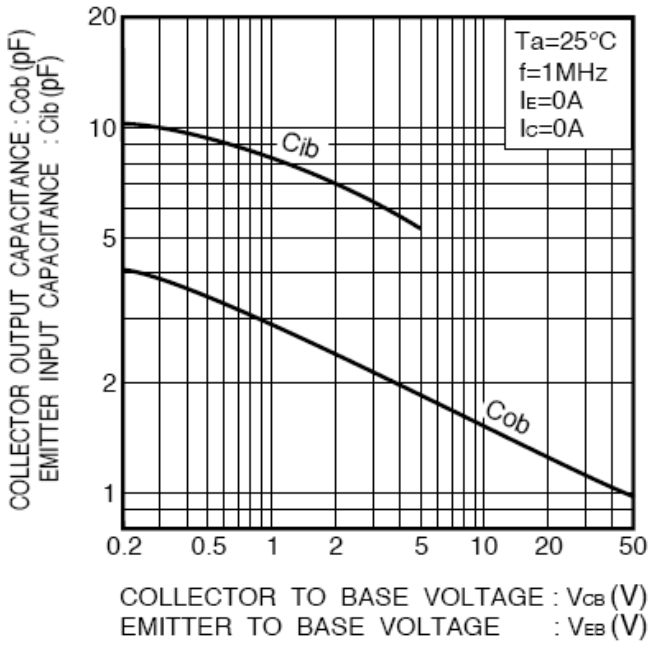


Fig.10 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

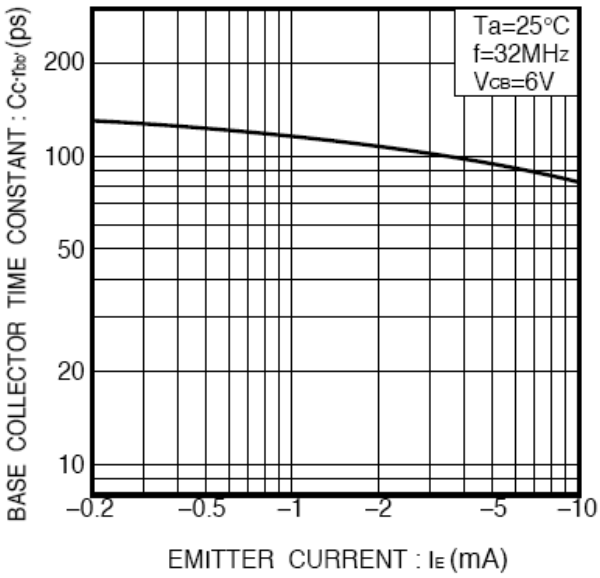


Fig.11 Base-collector time constant vs. emitter current