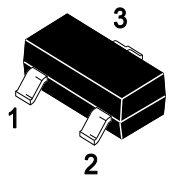
General Purpose Transistors

NPN Silicon

- We declare that the material of product compliance with RoHS requirements.
- S- Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable.

2SC2412K Series

S-2SC2412K Series



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ORDERING INFORMATION

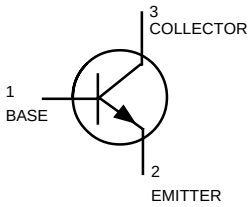
Device	Marking	Shipping
2SC2412KQ S-2SC2412KQ	BQ	3000 Tape & Reel
2SC2412KR S-2SC2412KR	BR	3000 Tape & Reel
2SC2412KS S-2SC2412KS	B1F	3000 Tape & Reel

h_{FE} values are classified as follows:

*	Q	R	S
hFE	120~270	180~390	270~560

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}	7.0	V
Collector Current — Continuous	I_C	150	mAdc
Collector power dissipation	P_C	0.2	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 —+150	°C



DEVICE MARKING

2SC2412KQ =BQ 2SC2412KR =BR 2SC2412KS =G1F

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

Characteristic	Symbol	Min	Typ	Max	Unit
Collector–Emitter Breakdown Voltage (I_C = 1 mA)	$V_{(BR)CEO}$	50	—	—	V
Emitter–Base Breakdown Voltage (I_E = 50 µA)	$V_{(BR)EBO}$	7	—	—	V
Collector–Base Breakdown Voltage (I_C = 50 µA)	$V_{(BR)CBO}$	60	—	—	V
Collector Cutoff Current (V_{CB} = 60 V)	I_{CBO}	—	—	0.1	µA
Emitter cutoff current (V_{EB} = 7 V)	I_{EBO}	—	—	0.1	µA
Collector-emitter saturation voltage (I_C/ I_B = 50 mA / 5m A)	$V_{CE(sat)}$	—	—	0.4	V
DC current transfer ratio (V_{CE} = 6 V, I_C= 1mA)	h_{FE}	120	—	560	—
Transition frequency (V_{CE} = 12 V, I_E= – 2mA, f =30MHz)	f_T	—	180	—	MHz
Output capacitance (V_{CB} = 12 V, I_E= 0A, f =1MHz)	C_{ob}	—	2.0	3.5	pF

Fig.1 Grounded emitter propagation characteristics

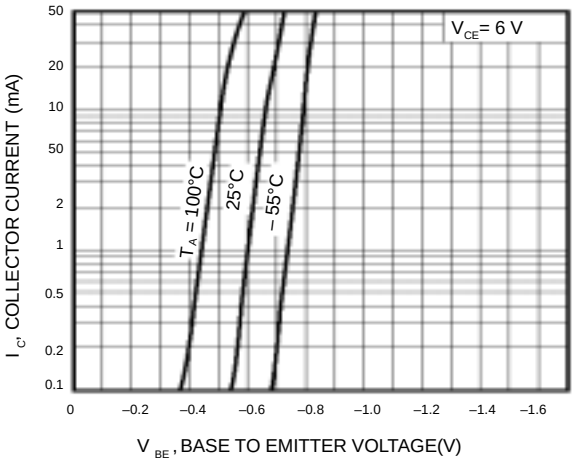


Fig.2 Grounded emitter output characteristics(Ⅰ)

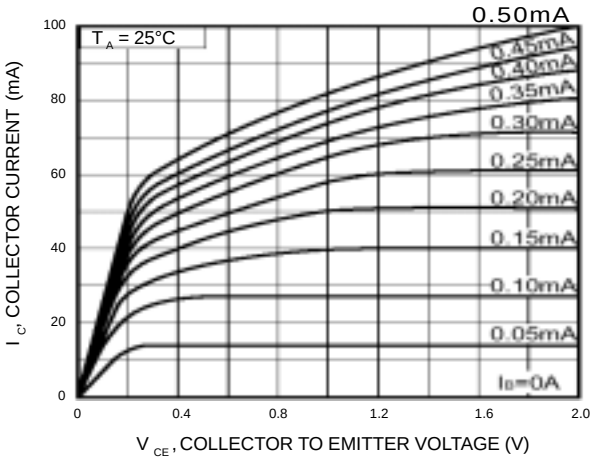


Fig.3 Grounded emitter output characteristics(Ⅱ)

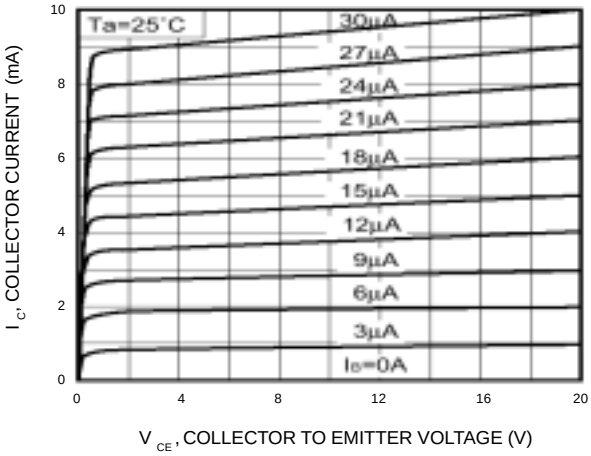


Fig.4 DC current gain vs. collector current (Ⅰ)

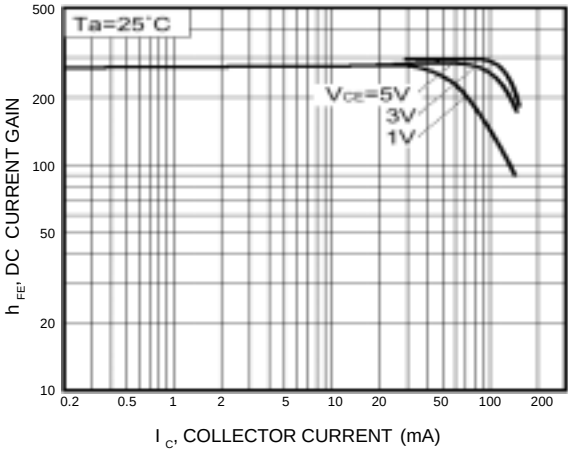


Fig.5 DC current gain vs. collector current (Ⅱ)

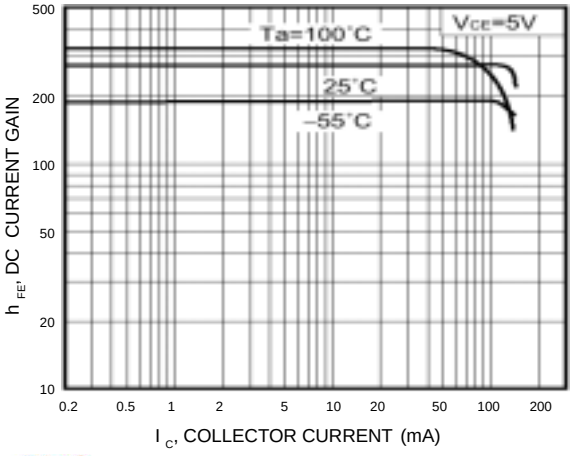


Fig.6 Collector-emitter saturation voltage vs. collector current

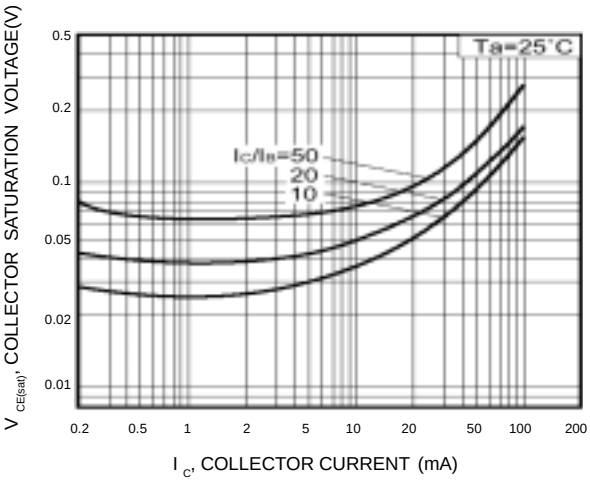


Fig.7 Collector-emitter saturation voltage vs. collector current (Ⅰ)

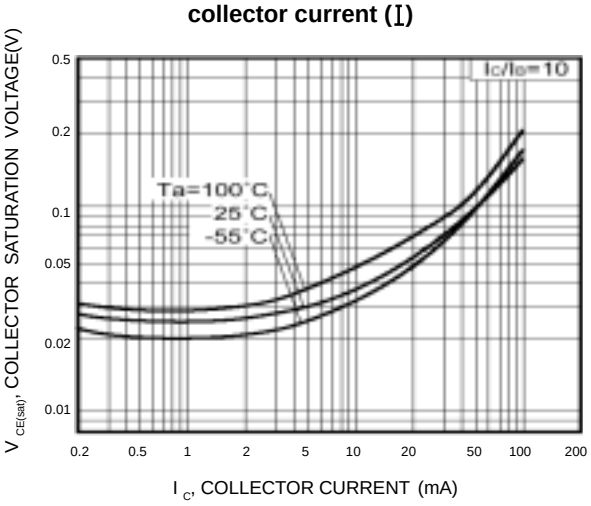


Fig.8 Collector-emitter saturation voltage vs. collector current (Ⅱ)

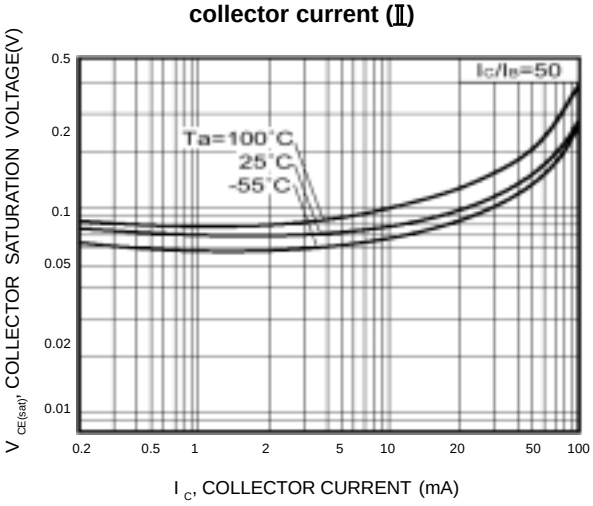


Fig.9 Gain bandwidth product vs. emitter current

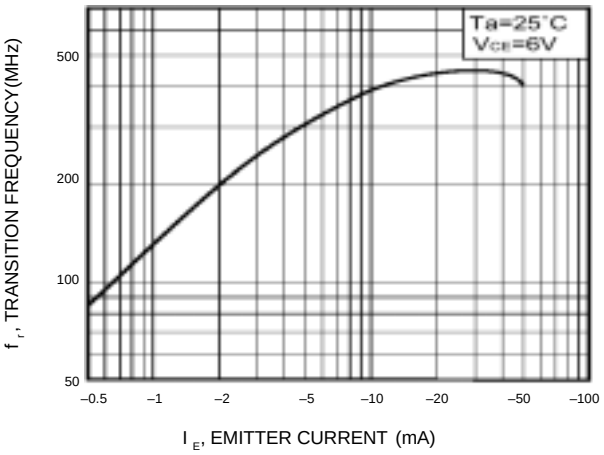


Fig.10 Collector output capacitance vs.collector-base voltage Emitter inputcapacitance vs. emitter-base voltage

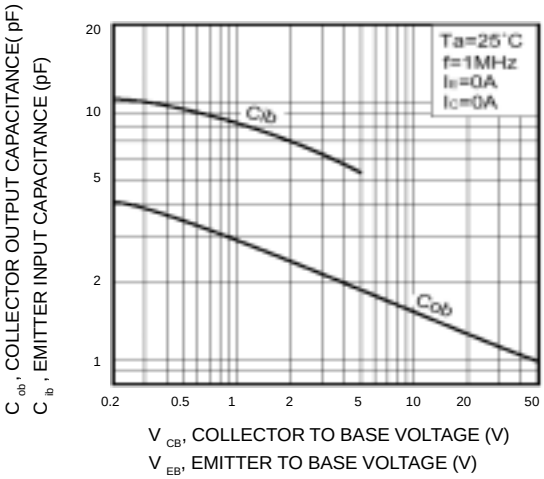
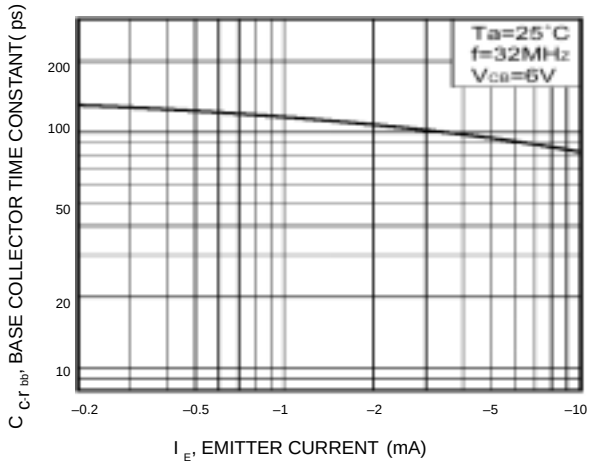


Fig.11 Base-collector time constant vs.emitter current



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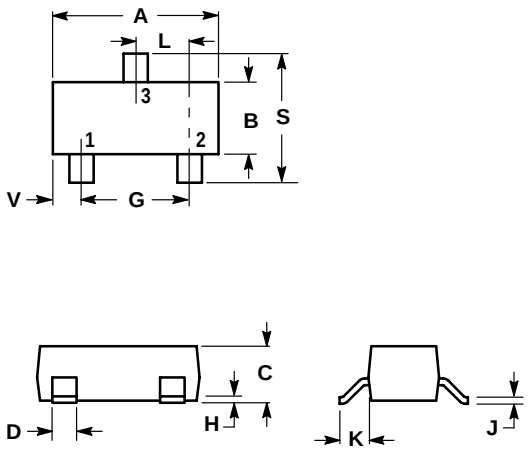

NOTES:

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