



DATA SHEET

SEMICONDUCTOR

2SC2411KQ/R/S

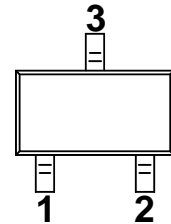
Medium Power Transistor NPN silicon



FEATURE

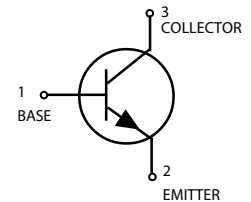
- Epitaxial planar type
- Complementary to L2SA1036K
- Pb-Free package is available

SOT-23 (TO-236AB)



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
2SC2411KP	CP	3000/Tape&Reel
2SC2411KQ	CQ	3000/Tape&Reel
2SC2411KR	CR	3000/Tape&Reel



MAXIMUM RATINGS (T_A = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CBO}	40	V
Collector-emitter voltage	V _{CEO}	32	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	I _C	0.5	A*
Collector power dissipation	P _C	0.2	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~+150	°C

*P_C must not be exceeded.

ELECTRICAL CHARACTERISTICS(T_A = 25°C)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CBO}	40	-	-	V	I _C =100μA
Collector-emitter breakdown voltage	BV _{CEO}	32	-	-	V	I _C =1mA
Emitter-base breakdown voltage	BV _{EBO}	5	-	-	V	I _E =100μA
Collector cutoff current	I _{CBO}	-	-	1	μA	V _{CB} =20V
Emitter cutoff current	I _{EBO}	-	-	1	μA	V _{EB} =4V
DC current transfer ratio	h _{FE}	82	-	390	-	V _{CE} =3V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.4	V	I _C /I _B =500mA/50mA
Transition frequency	f _T	-	250	-	MHz	V _{CE} =5V, I _E =-20mA, f=100MHz
Output capacitance	C _{ob}	-	6.0	-	pF	V _{CB} =10V, I _E =0A, f=1MHz

h_{FE} values are classified as follows:

Item	P	Q	R
h _{FE}	82-180	120-270	180-390

DEVICE CHARACTERISTICS

2SC2411KQ/R/S

Electrical characteristic curves ($T_A = 25^\circ\text{C}$)

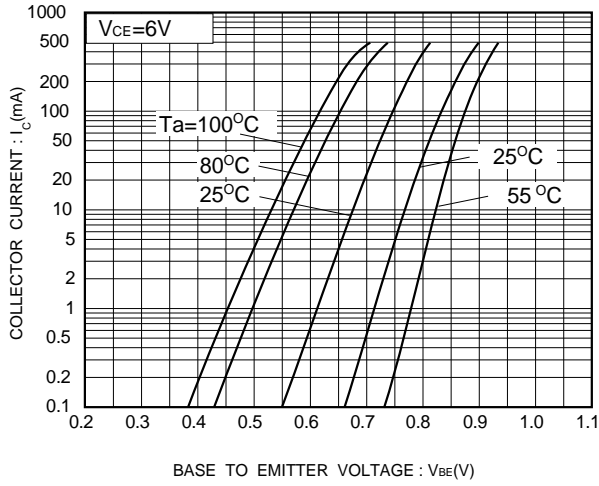


Fig.1 Grounded emitter propagation characteristics

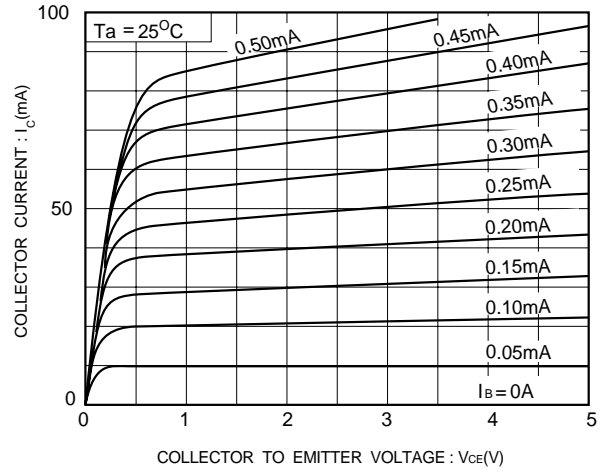


Fig.2 Grounded emitter output characteristics(I)

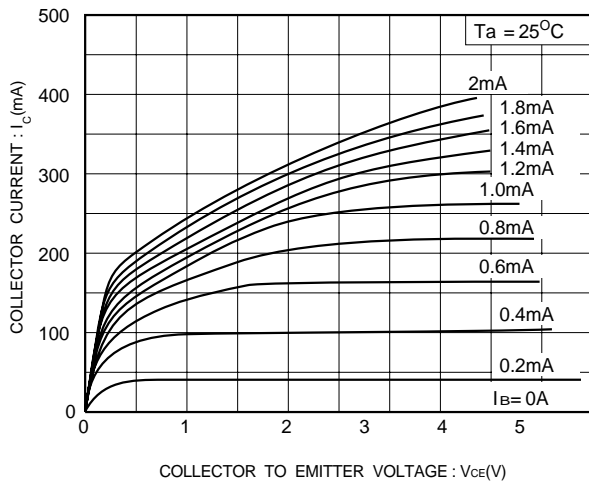


Fig.3 Grounded emitter output characteristics(II)

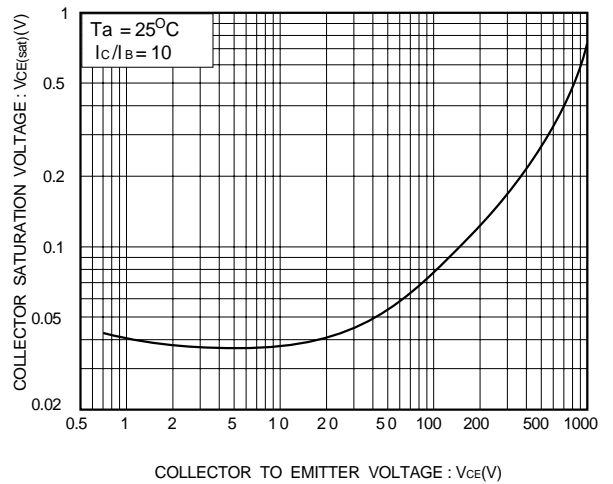


Fig.4 Collector-emitter saturation voltage vs. collector current

DEVICE CHARACTERISTICS

2SC2411KQ/R/S

Electrical characteristic curves ($T_A = 25^\circ\text{C}$)

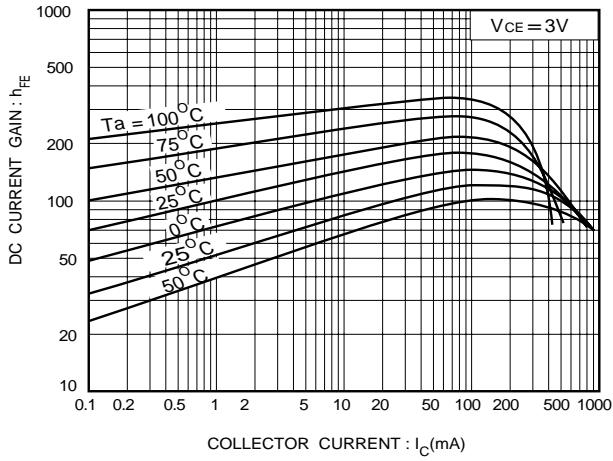


Fig.5 DC current gain vs. collector current

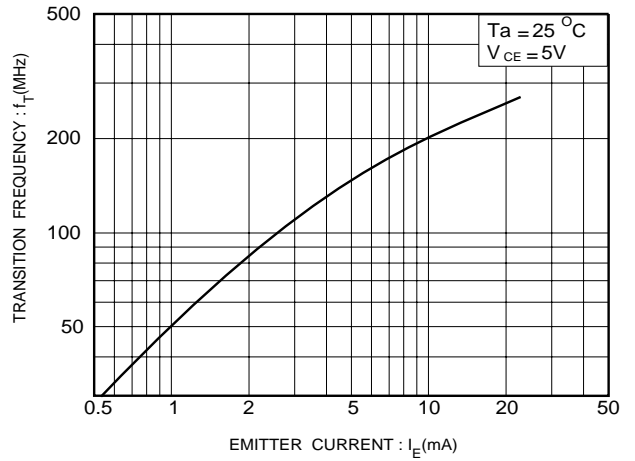


Fig.6 Gain bandwidth product vs. emitter current

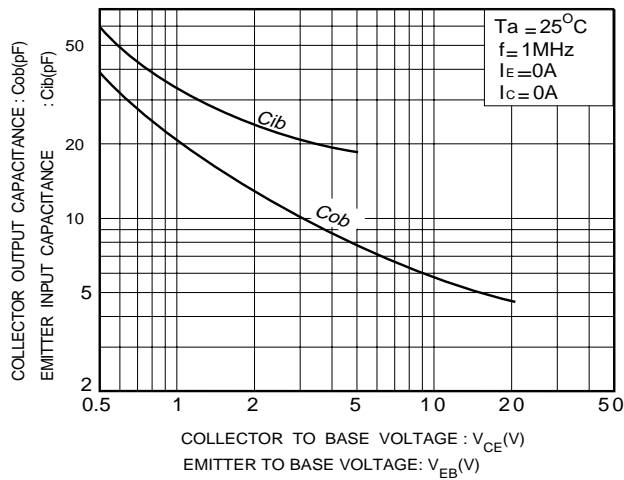


Fig.7 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base voltage

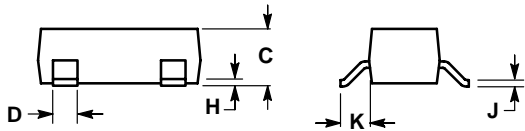
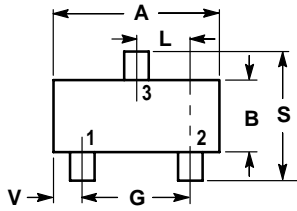
PACKAGE OUTLINE & DIMENSIONS

2SC2411KQ/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

