

# Medium Power Transistor

## NPN silicon

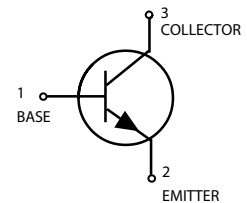
### FEATURE

- Epitaxial planar type
- Complementary to 2SA1036K
- We declare that the material of product compliance with RoHS requirements.



### DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
2SC2411KQLT1	CQ	3000/Tape&Reel
2SC2411KRLT1	CR	3000/Tape&Reel



### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CBO</sub>	40	V
Collector-emitter voltage	V <sub>CEO</sub>	32	V
Emitter-base voltage	V <sub>EBO</sub>	5	V
Collector current	I <sub>C</sub>	0.5	A*
Collector power dissipation	P <sub>C</sub>	0.2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\*P<sub>C</sub> must not be exceeded.

### ELECTRICAL CHARACTERISTICS(T<sub>A</sub> = 25°C)

Parameter	Symbol	Min.	Typ	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CBO</sub>	40	-	-	V	I <sub>C</sub> = 100μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	32	-	-	V	I <sub>C</sub> = 1mA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	5	-	-	V	I <sub>E</sub> = 100μA
Collector cutoff current	I <sub>CBO</sub>	-	-	1	μA	V <sub>CB</sub> = 20V
Emitter cutoff current	I <sub>EBO</sub>	-	-	1	μA	V <sub>EB</sub> = 4V
DC current transfer ratio	h <sub>FE</sub>	F2€	-	390	-	V <sub>CE</sub> = 3V, I <sub>C</sub> = 100mA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	0.4	V	I <sub>C</sub> /I <sub>B</sub> = 500mA/50mA
Transition frequency	f <sub>T</sub>	-	250	-	MHz	V <sub>CE</sub> = 5V, I <sub>E</sub> = -20mA, f = 100MHz
Output capacitance	C <sub>ob</sub>	-	6.0	-	pF	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0A, f = 1MHz

h<sub>FE</sub> values are classified as follows:

Item	Q	R
h <sub>FE</sub>	120-270	180-390

# Medium Power Transistor

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

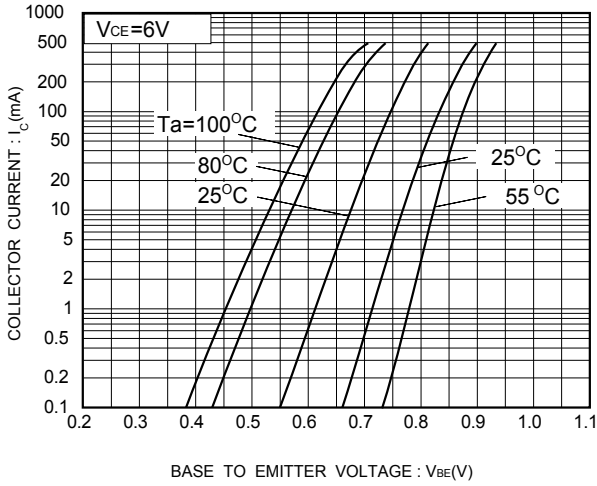


Fig.1 Grounded emitter propagation characteristics

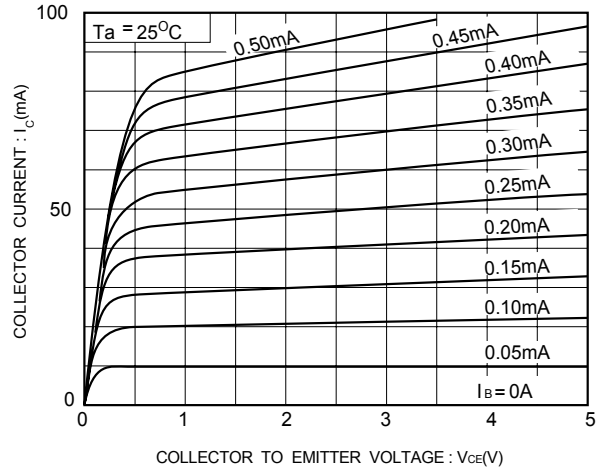


Fig.2 Grounded emitter output characteristics(I)

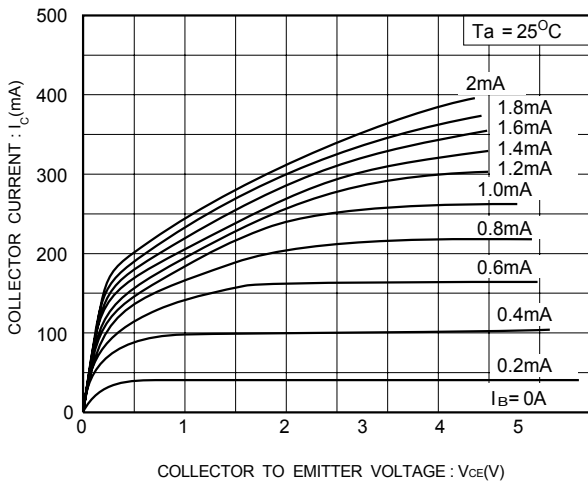


Fig.3 Grounded emitter output characteristics(II)

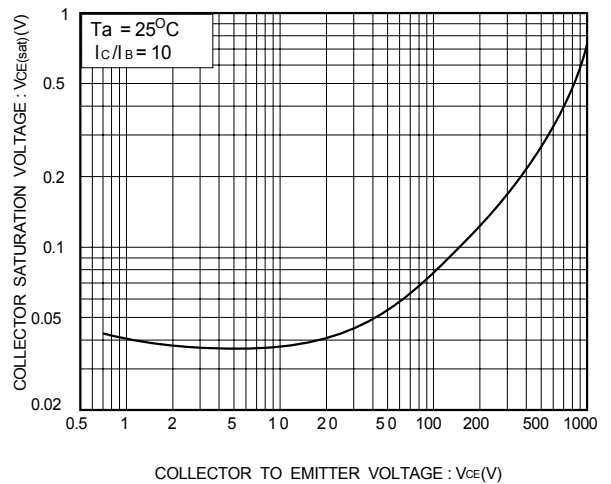


Fig.4 Collector-emitter saturation voltage vs. collector current

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

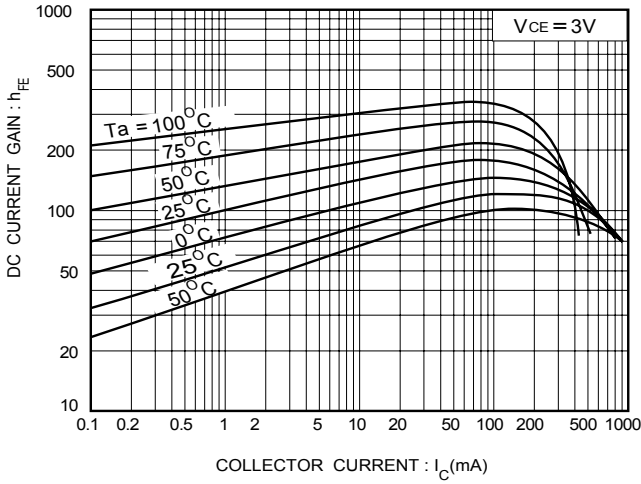


Fig.5 DC current gain vs. collector current

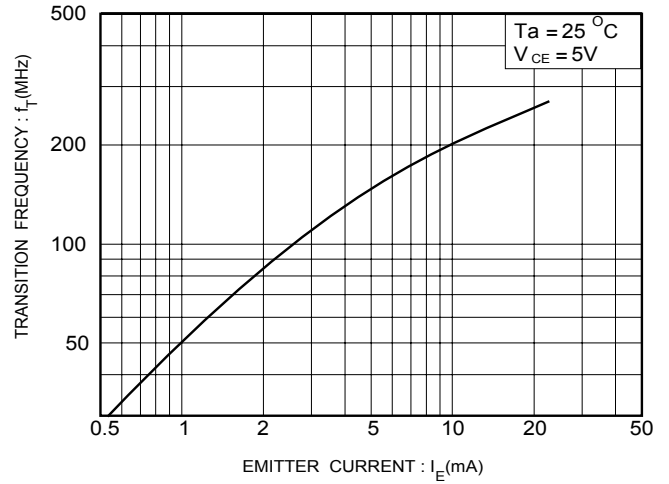


Fig.6 Gain bandwidth product vs. emitter current

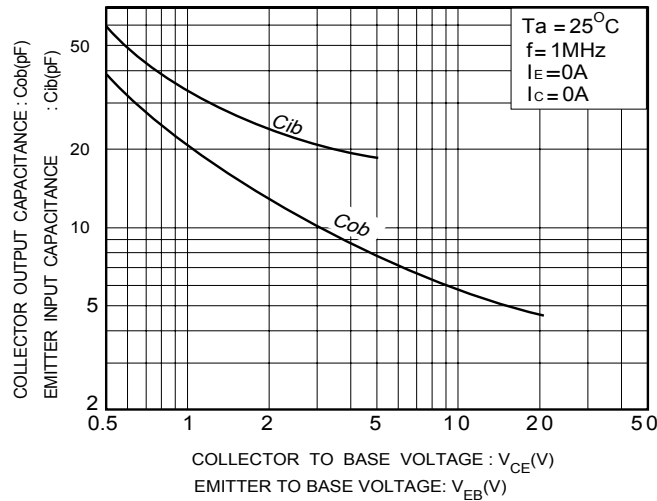
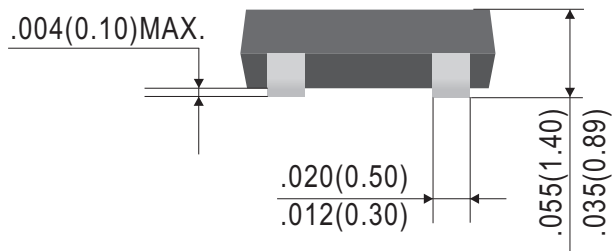
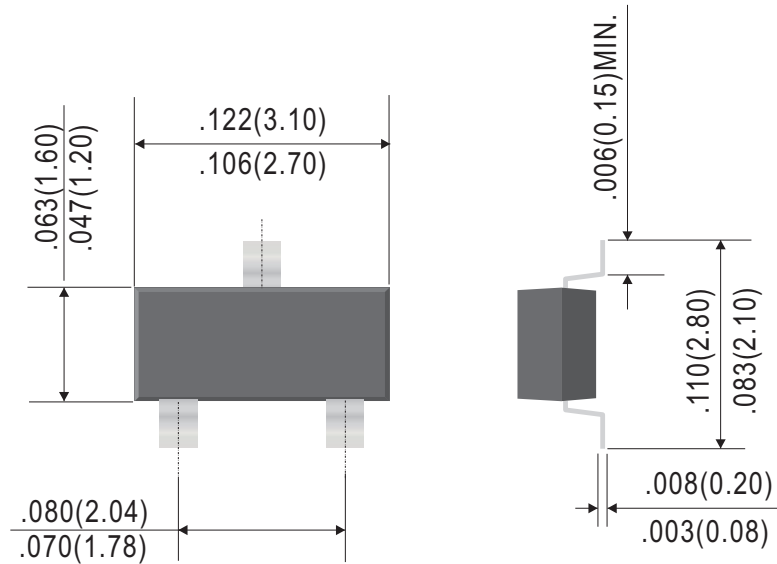


Fig.7 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

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## SOT-23



Dimensions in inches and (millimeters)

