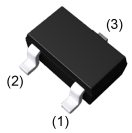
2SC2411K

Medium Power Transistor (32V, 500mA) Datasheet

Parameter	Value
V_{CEO}	32V
I_C	500mA

●Outline

SMT3

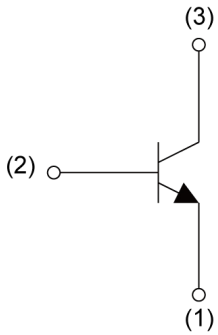


SOT-346
SC-59

●Features

1) High I_{CMAX}
I_{CMAX}=0.5A
2)Low $V_{CE(sat)}$
Optimal for low voltage operation.
3)Complements the 2SA1036K.

●Inner circuit



(1) Emitter
(2) Base
(3) Collector

●Application

DRIVING CIRCUIT, LOW FREQUENCY AMPLIFIER

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
2SC2411K	SMT3	2928	T146	180	8	3000	C

●Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Values	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	500	mA
Power dissipation	P_D*1	200	mW
Junction temperature	T_j	150	℃
Range of storage temperature	T_{stg}	-55 to +150	℃

●Electrical characteristics (T_a = 25°C)

Parameter	Symbol	Conditions	Values			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	BV_{CBO}	I_C = 100μA	40	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA	32	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 100μA	5	-	-	V
Collector cut-off current	I_{CBO}	V_{CB} = 20V	-	-	1.0	μA
Emitter cut-off current	I_{EBO}	V_{EB} = 4V	-	-	1.0	μA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 500mA, I_B = 50mA	-	-	600	mV
DC current gain	h_{FE}	V_{CE} = 3V, I_C = 100mA	82	-	390	-
Transition frequency	f_T	V_{CE} = 5V, I_E = -20mA, f = 100MHz	-	250	-	MHz
Output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0A, f = 1MHz	-	6.5	-	pF

hFE values are calssified as follows :

rank	P	Q	R	-	-
h_{FE}	82-180	120-270	180-390	-	-

*1 Each terminal mounted on a reference land

●Electrical characteristic curves(T_a = 25°C)

Fig.1 Grounded emitter propagation characteristics

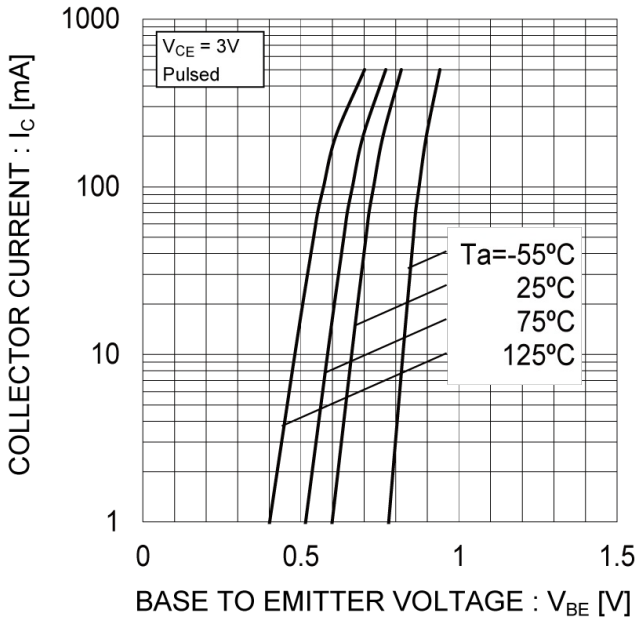


Fig.2 Typical output characteristics

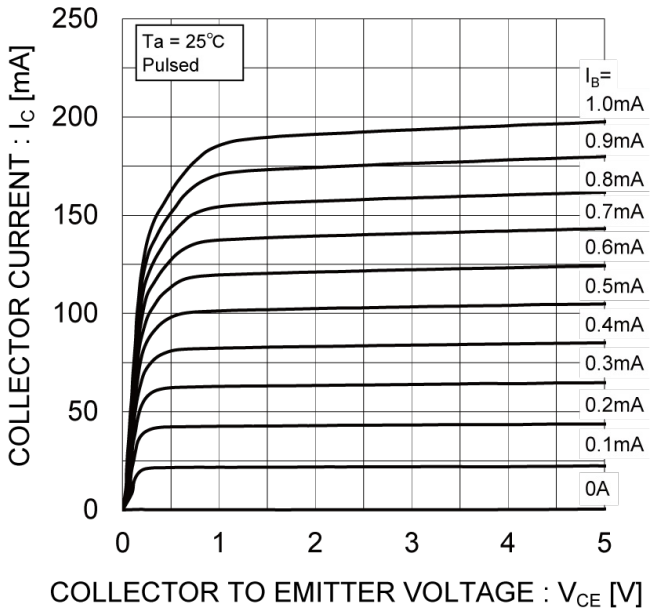


Fig.3 DC current gain vs.collector current(I)

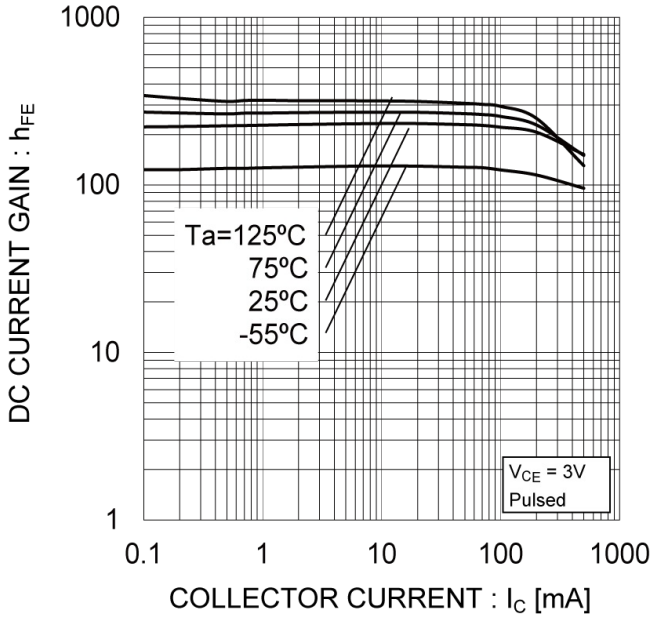
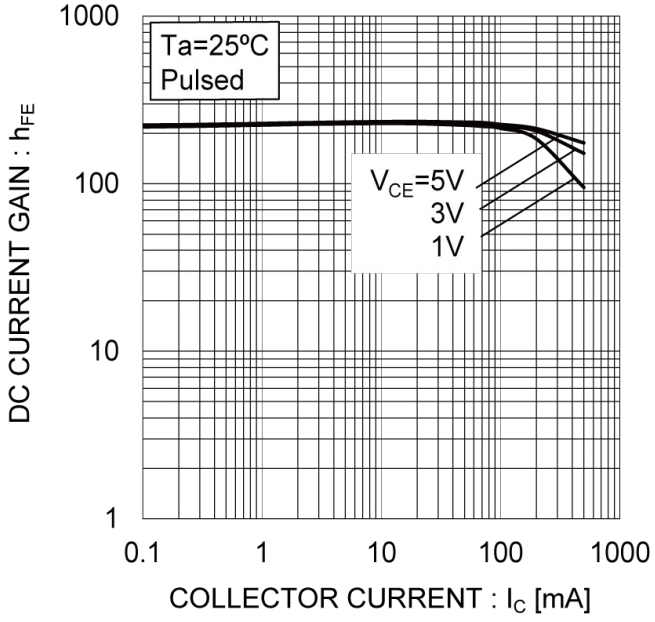


Fig.4 DC current gain vs.collector current(II)



●Electrical characteristic curves(T_a = 25°C)

Fig.5 Collector-emitter saturation voltage vs. collector current(I)

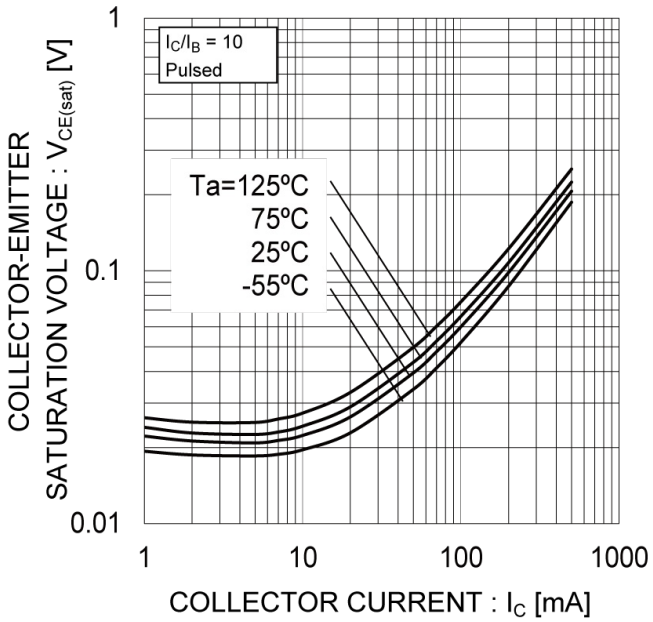


Fig.6 Collector-emitter saturation voltage vs. collector current(II)

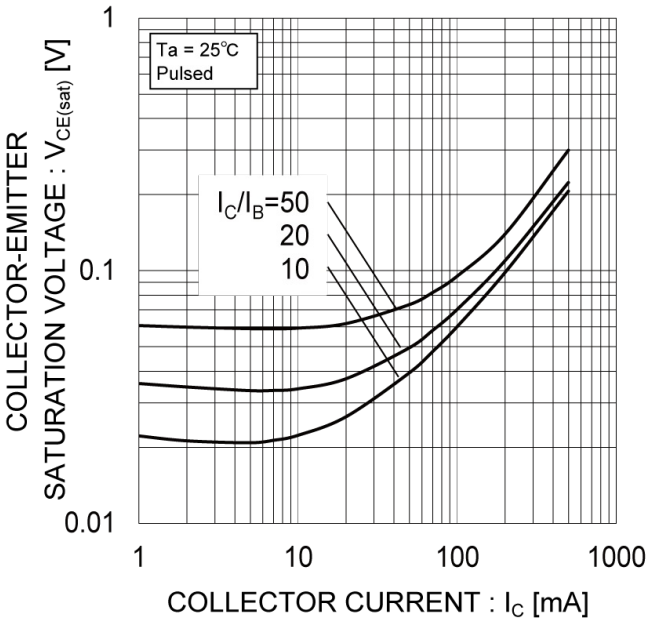


Fig.7 Base-emitter saturation voltage vs. collector current

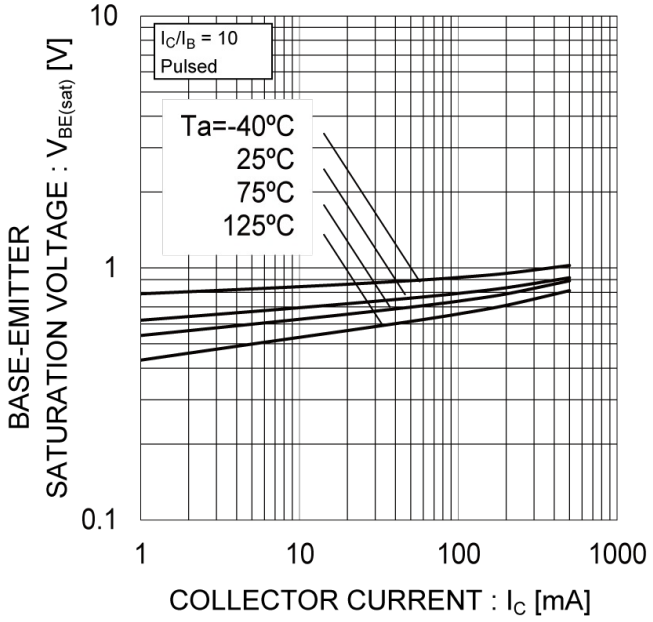
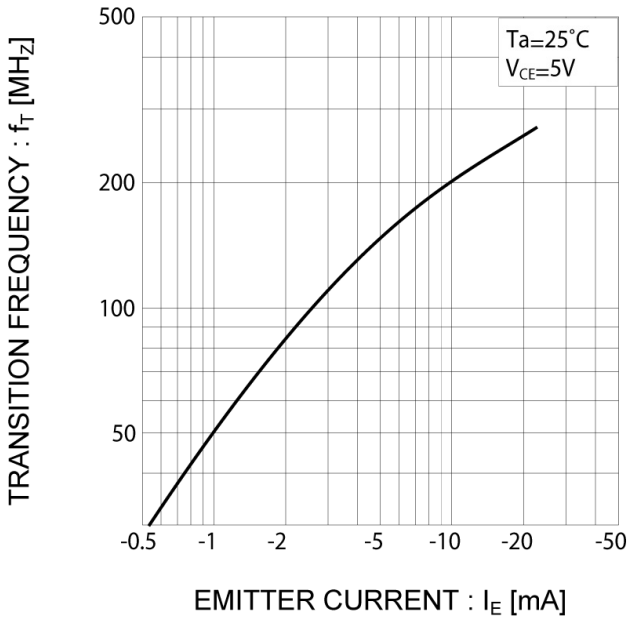


Fig.8 Gain bandwidth product vs. emitter current



●Electrical characteristic curves(T_a = 25°C)

Fig.9 Collector output capacitance vs. collector-base voltage
Emitter input capacitance vs. emitter-base-voltage

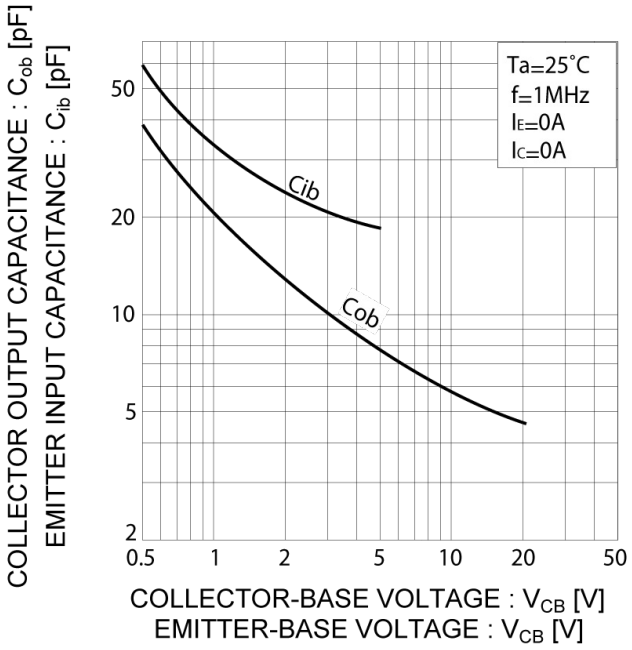
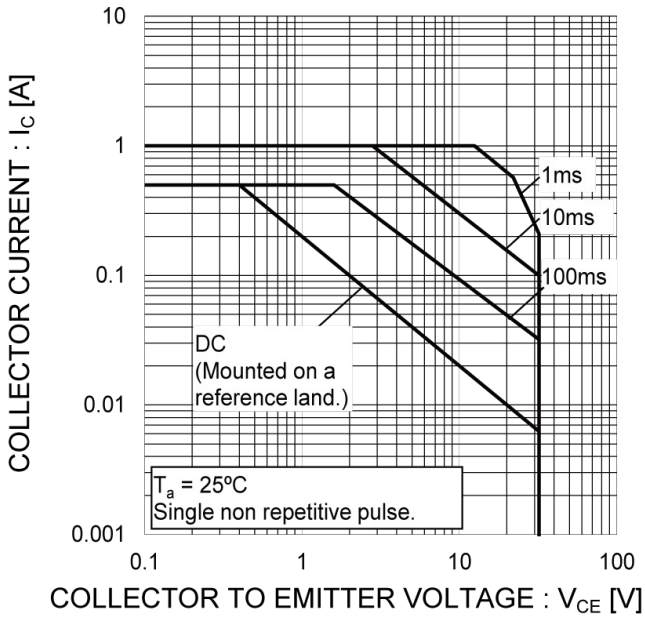
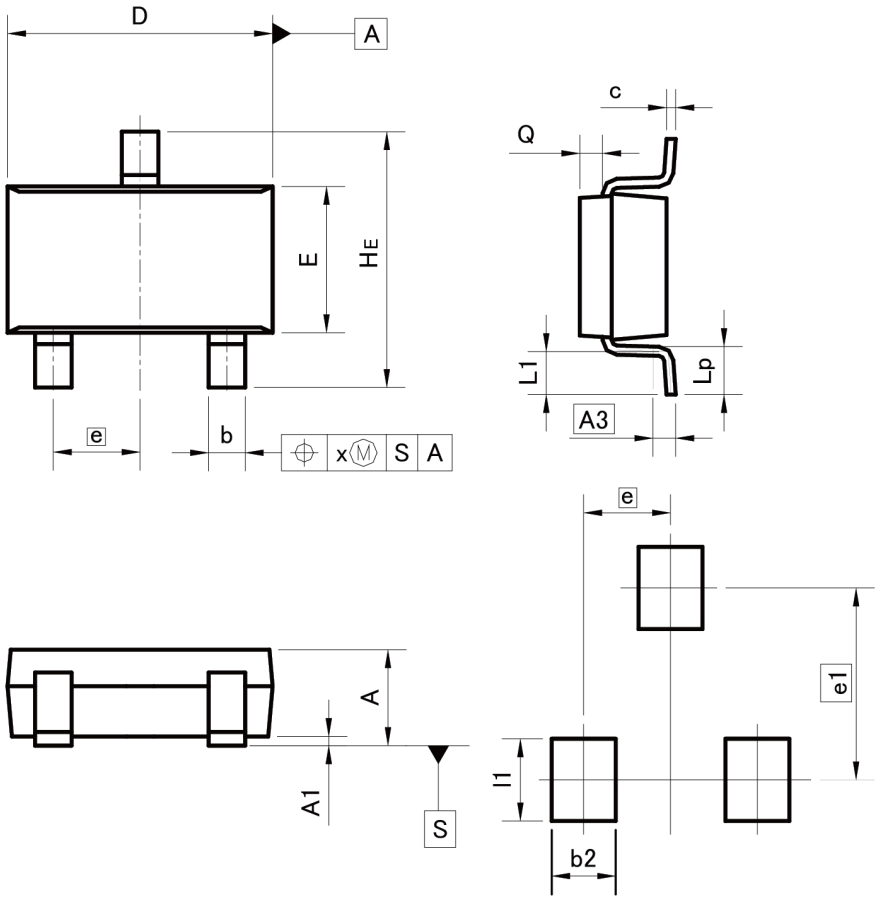


Fig.10 Safe Operating Area



●Dimensions

SMT3



Pattern of terminal position areas
[Not a recommended pattern of soldering pads]

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.00	1.30	0.039	0.051
A1	0.00	0.10	0.000	0.004
A3	0.25		0.010	
b	0.35	0.50	0.014	0.020
c	0.09	0.25	0.004	0.010
D	2.80	3.00	0.110	0.118
E	1.50	1.80	0.059	0.071
e	0.95		0.037	
HE	2.60	3.00	0.102	0.118
L1	0.30	0.60	0.012	0.024
Lp	0.40	0.70	0.016	0.028
Q	0.20	0.30	0.008	0.012
x	–	0.10	–	0.004
y	–	0.10	–	0.004

DIM	MILIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b2	–	0.60	–	0.024
e1	2.10		0.083	
l1	–	0.90	–	0.035

Dimension in mm/inches

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