2SD2444K

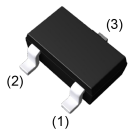
Power Transistor (15V,1A)

Datasheet

Parameter	Value
V_{CEO}	15V
I_C	1A

●Outline

SMT3



SOT-346

SC-59

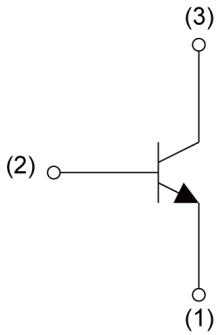
●Features

1)Low saturation voltage,
$V_{CE(sat)}$=0.3V(Max.) at I_C/I_B=400mA/20mA

2)I_C=1A.

3)Complements the 2SB1590K.

●Inner circuit



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

●Application

LOW FREQUENCY POWER AMPLIFIER

●Packaging specifications

Part No.	Package	Package size	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit.(pcs)	Marking
2SD2444K	SMT3	2928	T146	180	8	3000	BS

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●Absolute maximum ratings (T_a = 25°C)

Parameter	Symbol	Values	Unit
Collector-base voltage	V_{CBO}	15	V
Collector-emitter voltage	V_{CEO}	15	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	I_C	1	A
	I_{CP}*1	2	A
Power dissipation	P_D*2	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 = 50μA	15	-	-	V
Collector-emitter breakdown voltage	BV_{CEO}	I_C = 1mA	15	-	-	V
Emitter-base breakdown voltage	BV_{EBO}	I_E = 50μA	6	-	-	V
Collector cut-off current	I_{CBO}	V_{CB} = 12V	-	-	500	nA
Emitter cut-off current	I_{EBO}	V_{EB} = 5V	-	-	500	nA
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 400mA, I_B = 20mA	-	-	300	mV
DC current gain	$h_{FE}1$	V_{CE} = 2V, I_C = 50mA	180	-	390	-
	$h_{FE}2$	V_{CE} = 2V, I_C = 800mA	80	-	-	
Transition frequency	f_T	V_{CE} = 2V, I_E = -50mA, f = 100MHz	-	200	-	MHz
Output capacitance	C_{ob}	V_{CB} = 10V, I_E = 0A, f = 1MHz	-	15	-	pF

hFE values are calssified as follows :

rank	R	-	-	-	-
$h_{FE}1$	180-390	-	-	-	-

*1 Pw=10ms Single Pulse

*2 Each terminal mounted on a reference land.

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●Electrical characteristic curves(T_a = 25°C)

Fig.1 Ground Emitter Propagation Characteristics

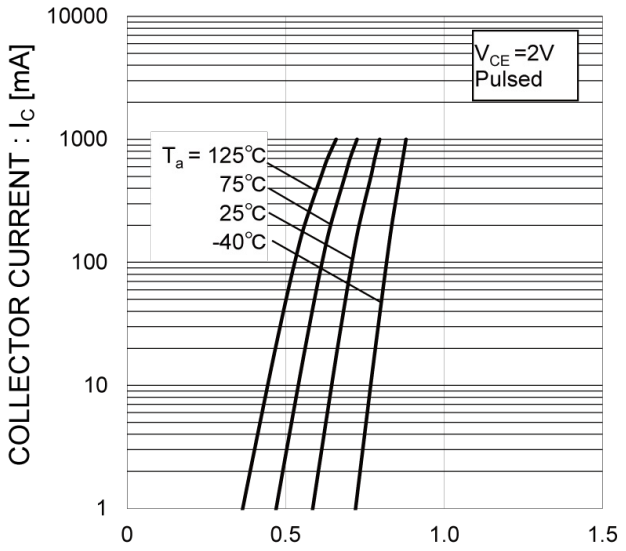


Fig.2 Typical Output Characteristics

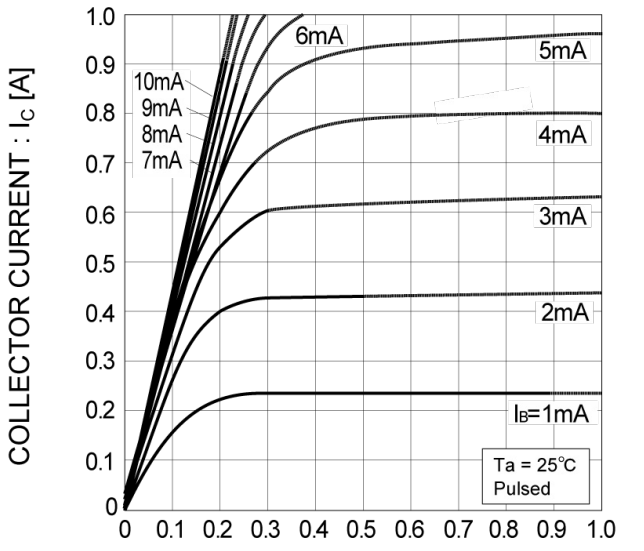


Fig.3 DC Current Gain vs. Collector Current (I)

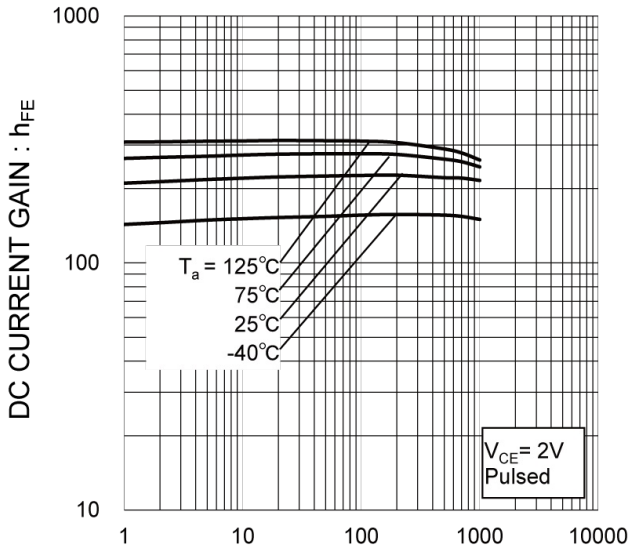
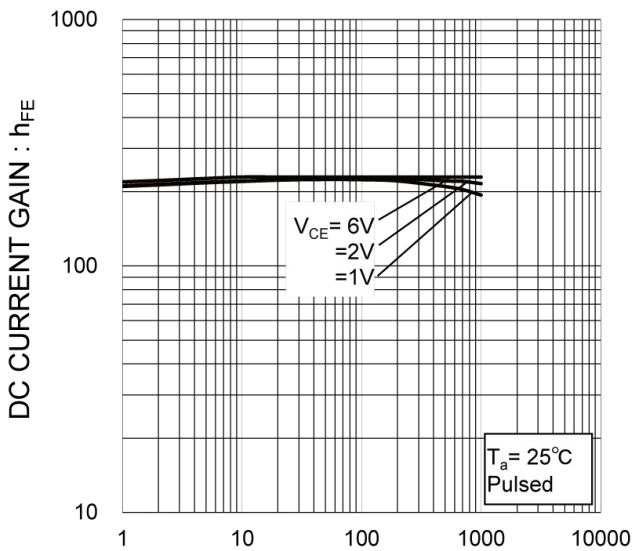


Fig.4 DC Current Gain vs. Collector Current (II)



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●Electrical characteristic curves(T_a = 25°C)

Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

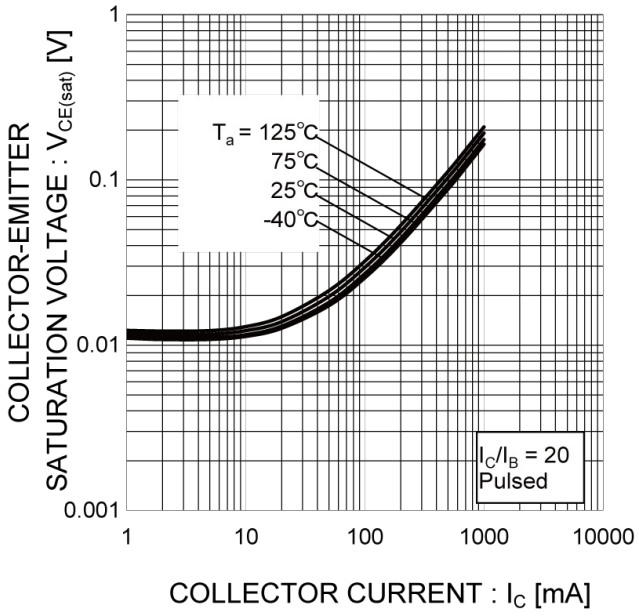


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

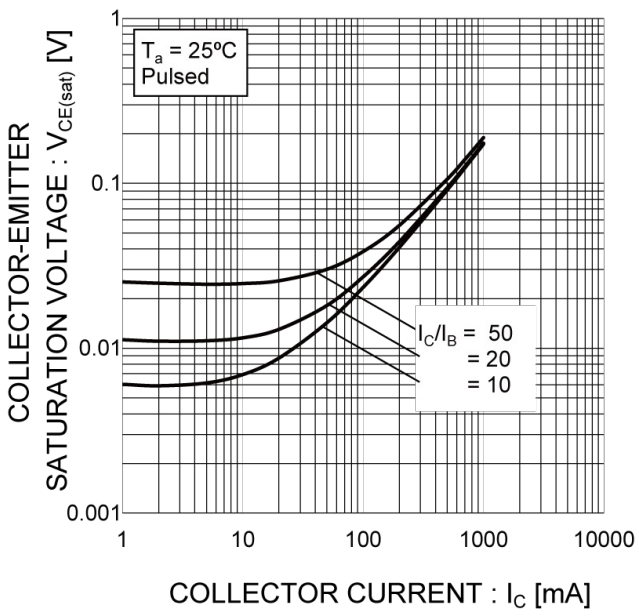


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

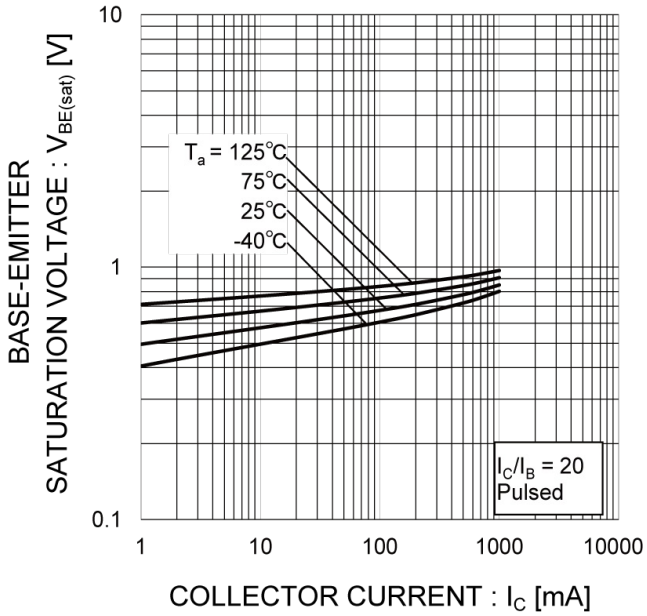
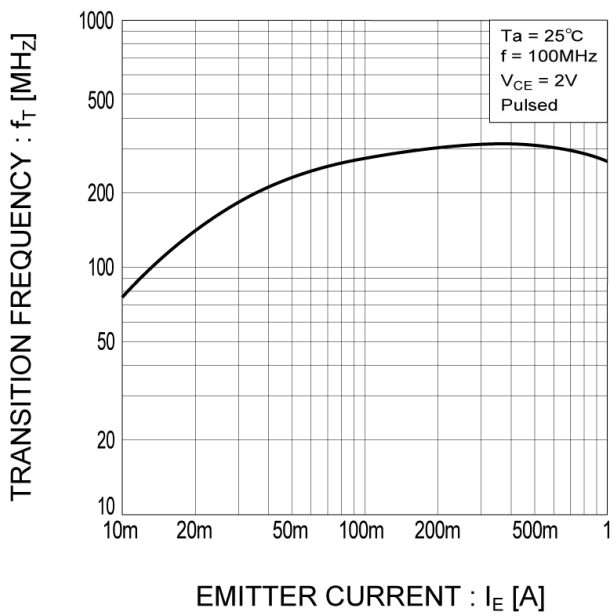


Fig.8 Gain Bandwidth Product vs. Emitter Current



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●Electrical characteristic curves(T_a = 25°C)

Fig.9 Emitter Input Capacitance vs. Emitter-Base Voltage
Collector Output Capacitance vs. Collector-Base Voltage

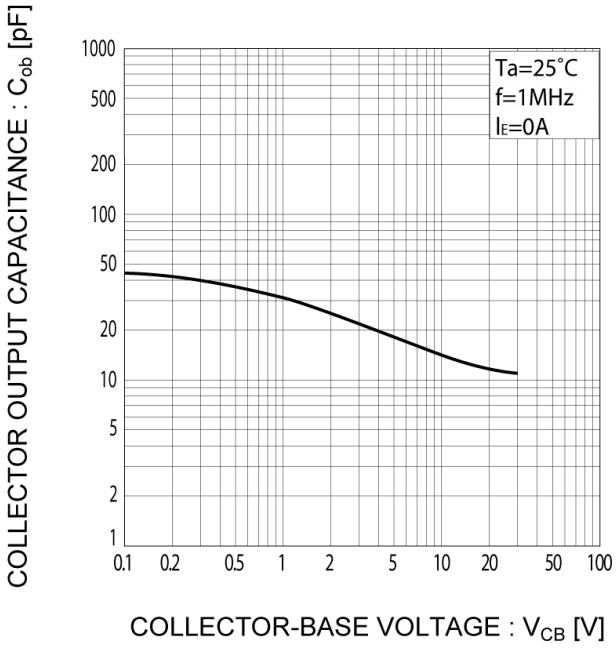
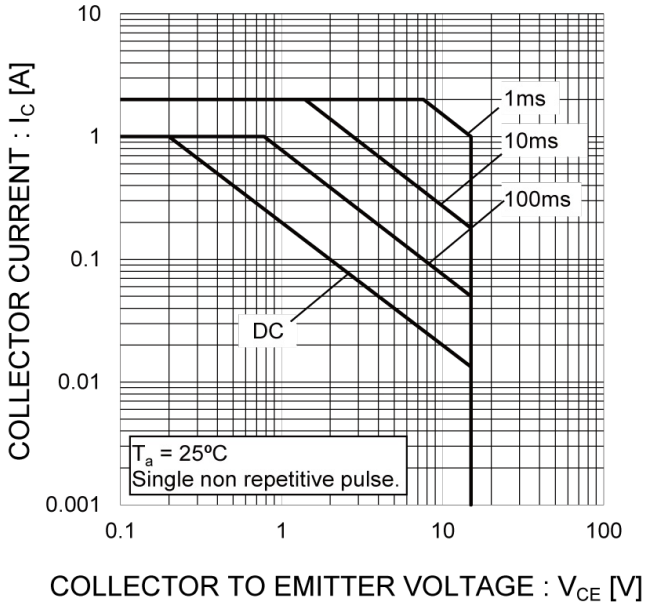


Fig.10 Safe Operating Area

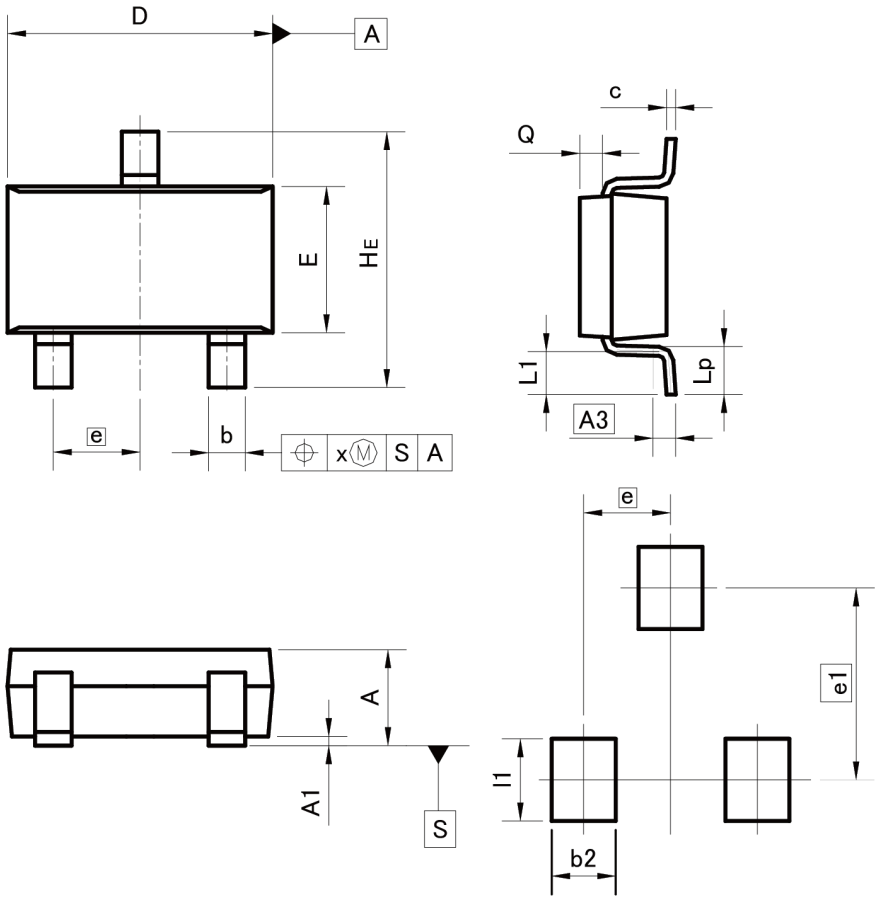


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●Dimensions

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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7) The Products specified in this document are not designed to be radiation tolerant.

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Distribution Inventory

Part Number	2sd2444k
Package	SMT3
Unit Quantity	3000
Minimum Package Quantity	3000
Packing Type	Taping
Constitution Materials List	inquiry
RoHS	Yes

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