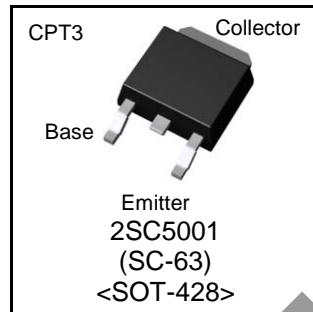
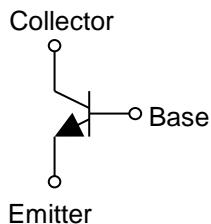


Parameter	Value
V_{CEO}	20V
I_C	10A

●Outline**●Features**

- 1) Suitable for Middle Power Driver
- 2) Complementary PNP Types : 2SA1834
- 3) Low $V_{CE(sat)}$
 $V_{CE(sat)} = 0.25V$ (Max.)
($I_C/I_B = 4A/0.05A$)
- 4) Large collector current : $I_C = 10A$ (DC Max.)
- 5) Lead Free/RoHS Compliant.

●Inner circuit**●Applications**

Motor driver , LED driver
Power supply , strobe

●Packaging specifications

Part No.	Package	Package size (mm)	Taping code	Reel size (mm)	Tape width (mm)	Basic ordering unit (pcs)	Marking
2SC5001	CPT3	6595	TL	330	16	2,500	C5001

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Values	Unit	
Collector-base voltage	V _{CBO}	30	V	
Collector-emitter voltage	V _{CEO}	20	V	
Emitter-base voltage	V _{EBO}	6	V	
Collector current	DC	I _C	10	A
	Pulsed	I _{CP} ^{*1}	15	A
Power dissipation		P _D ^{*2}	1	W
		P _D ^{*3}	10	W
Junction temperature	T _j	150	°C	
Range of storage temperature	T _{stg}	-55 to +150	°C	

^{*1} Pw=10ms, single pulse^{*2} Mounted on a substrate^{*3} Tc=25°C

● Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage	BV _{CEO}	I _C = 1mA	20	-	-	V
Collector-base breakdown voltage	BV _{CBO}	I _C = 50μA	30	-	-	V
Emitter-base breakdown voltage	BV _{EBO}	I _E = 50μA	6	-	-	V
Collector cut-off current	I _{CBO}	V _{CB} = 20V	-	-	1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = 5V	-	-	1	μA
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = 4A, I _B = 0.05A	-	0.13	0.25	V
Base-emitter saturation voltage	V _{BE(sat)}	I _C = 4A, I _B = 0.05A	-	0.9	1.2	V
DC current gain	h _{FE} 1	V _{CE} = 2V, I _C = 0.5A	120	-	390	-
	h _{FE} 2	V _{CE} = 2V, I _C = 4A	82	-	-	-
Transition frequency	f _T	V _{CE} = 5V, I _E = -1.5A f = 50MHz	-	150	-	MHz
Output capacitance	C _{ob}	V _{CB} = 10V, I _E = 0A f = 1MHz	-	220	-	pF

● h_{FE} rank categories

Rank	Q	R
h _{FE}	120 to 270	180 to 390

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

Fig.1 Ground Emitter Propagation Characteristics

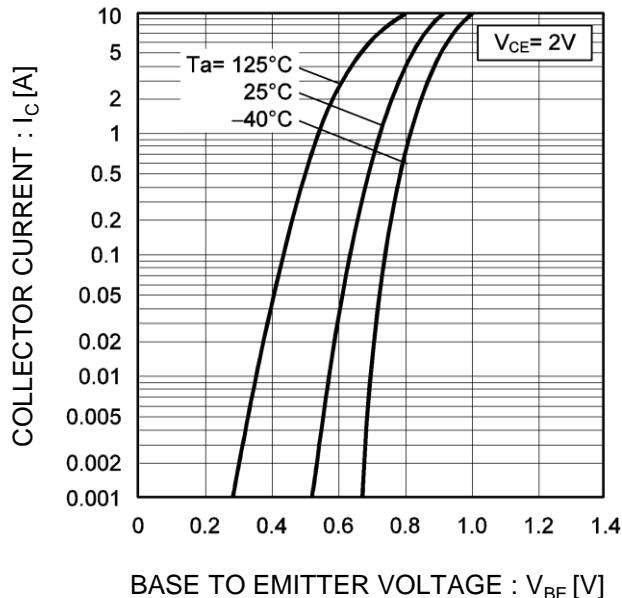


Fig.2 Typical Output Characteristics

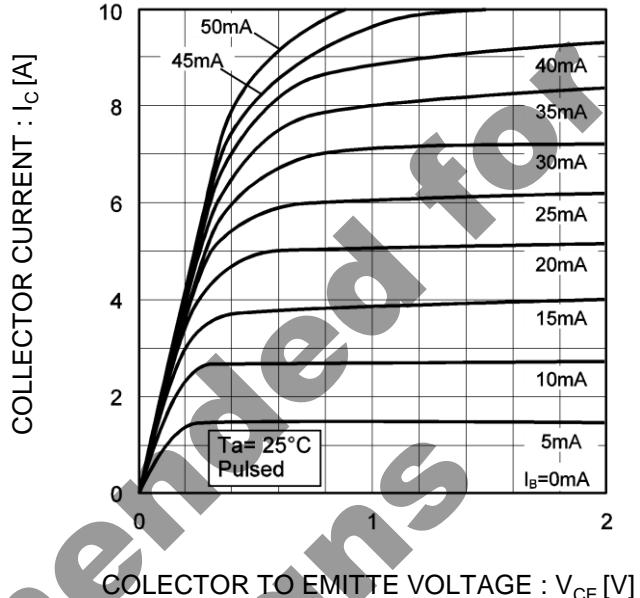


Fig.3 DC Current Gain vs. Collector Current(I)

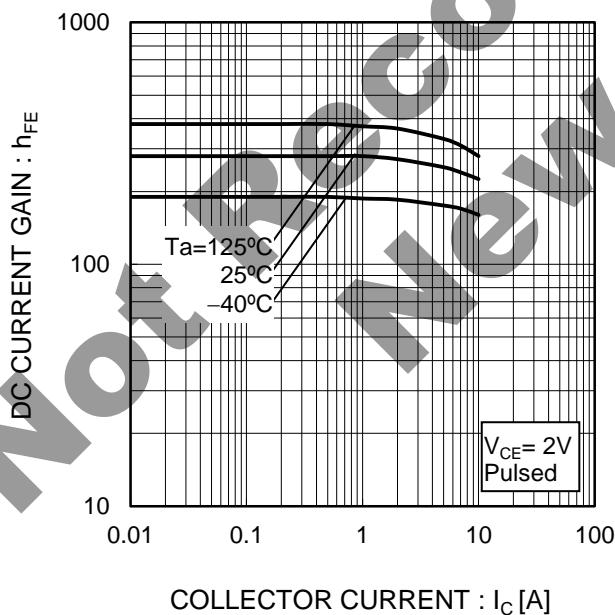
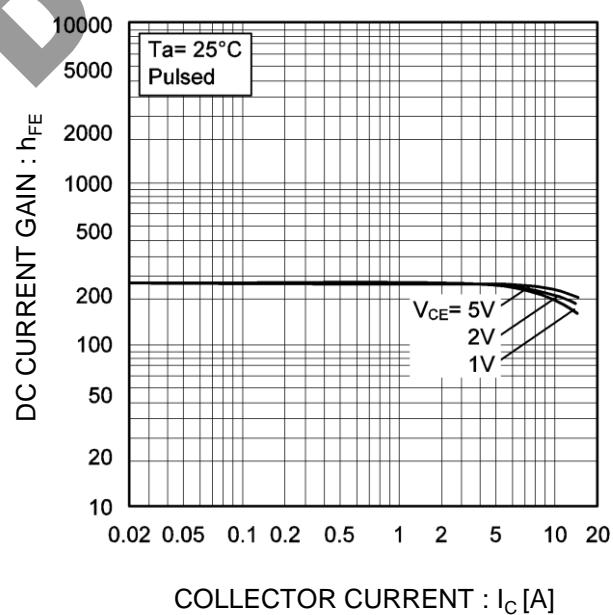


Fig.4 DC current gain vs. output current (II)



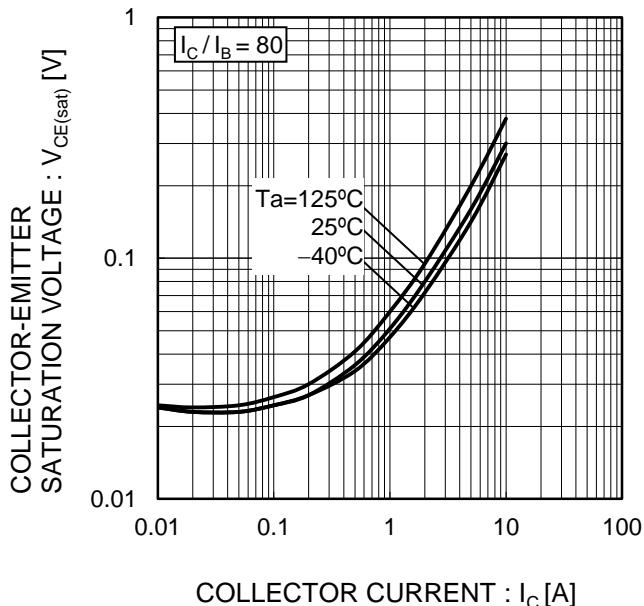
●Electrical characteristic curves($T_a = 25^\circ\text{C}$)Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

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

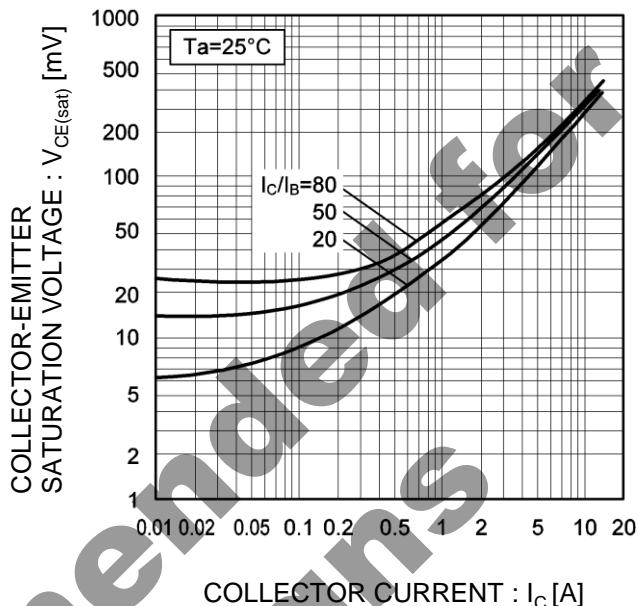


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

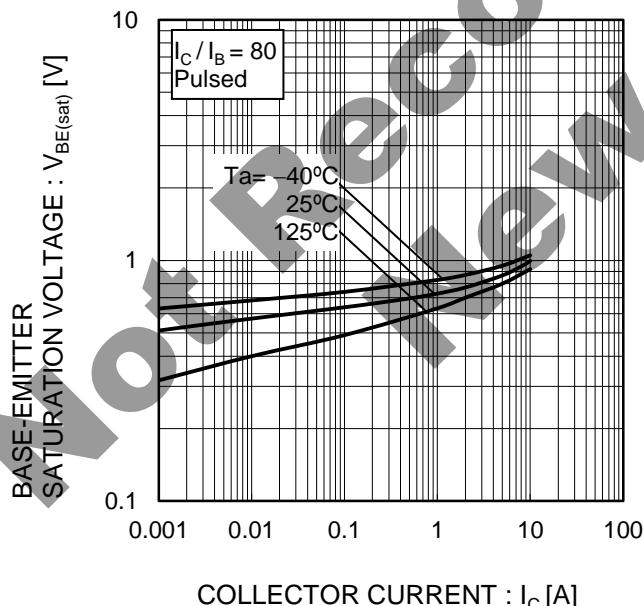
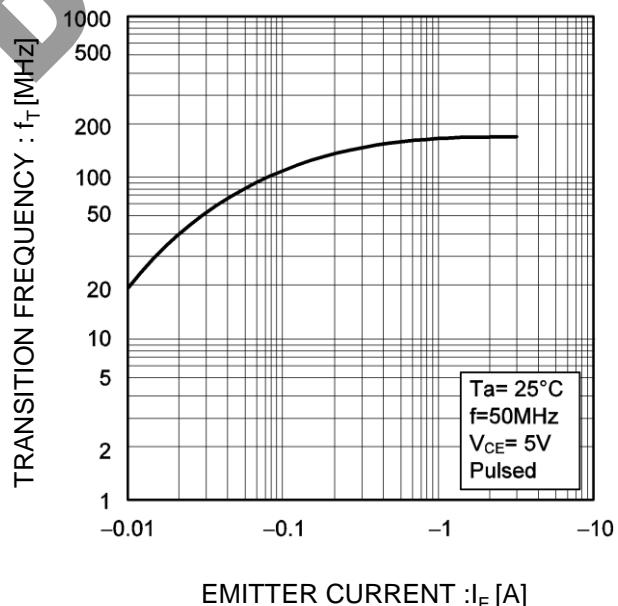


Fig.8 Gain Bandwidth Product vs. Emitter Current



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

Fig.9 Collector output capacitance vs.
Collector-Base Voltage

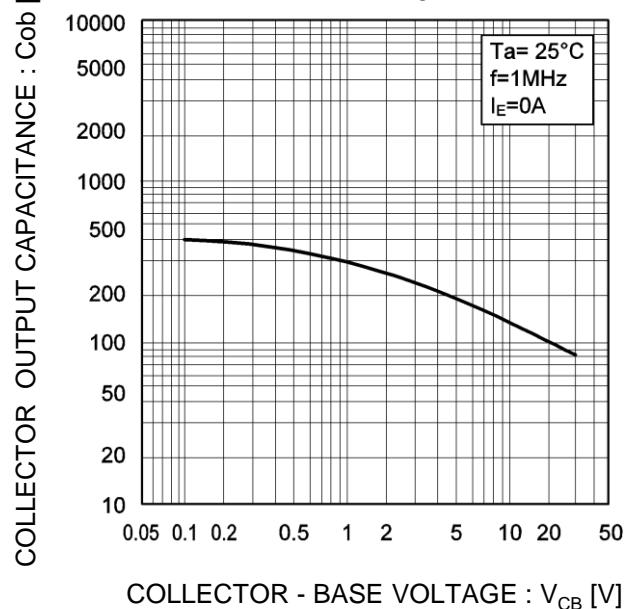
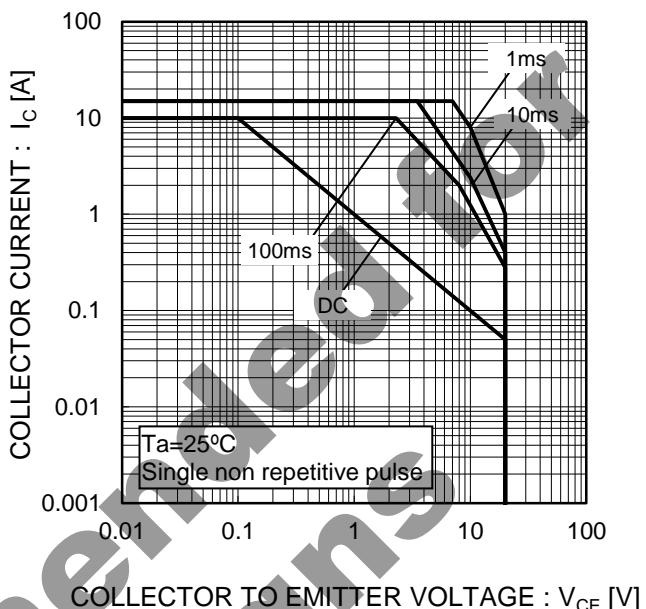
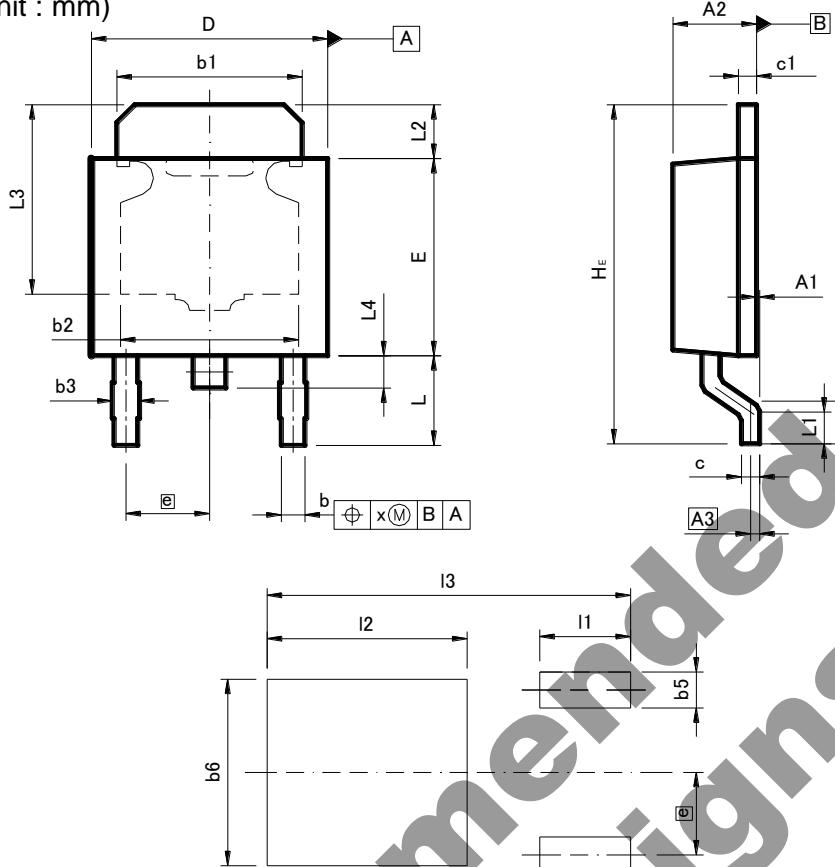


Fig.10 Safe Operating Area



●Dimensions (Unit : mm)

CPT3



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A1	0.00	0.15	0.000	0.006
A2	2.20	2.50	0.087	0.098
A3	0.25		0.010	
b	0.55	0.75	0.022	0.030
b1	5.00	5.30	0.197	0.209
b2	5.00		0.197	
b3	0.75		0.030	
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.30	6.70	0.248	0.264
E	5.40	5.80	0.213	0.228
e	2.30		0.091	
H _E	9.00	10.00	0.354	0.394
L	2.20	2.80	0.087	0.110
L1	0.80	1.40	0.031	0.055
L2	1.20	1.80	0.047	0.071
L3	5.30		0.209	
L4	0.90		0.035	
L _p	1.00	1.60	0.039	0.063
x	—	0.25	—	0.010

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
b ₅	—	1.00	—	0.04
b ₆	—	5.20	—	0.205
I ₁	—	2.50	—	0.098
I ₂	—	5.50	—	0.217
I ₃	—	10.00	—	0.394

Dimension in mm / inches

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