

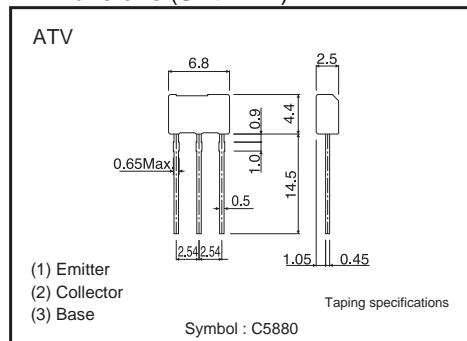
Power transistor (60V, 2A)

2SC5880**●Features**

- 1) High speed switching.
(t_f : Typ. : 35ns at $I_c = 2A$)
- 2) Low saturation voltage, typically
(Typ. : 200mV at $I_c = 1.0A$, $I_B = 100mA$)
- 3) Strong discharge power for inductive load and
capacitance load.
- 4) Complements the 2SA2093

●Applications

Low frequency amplifier
High speed switching

●Dimensions (Unit : mm)**●Structure**

NPN Silicon epitaxial planar transistor

●Packaging specifications

Type	Package	Taping
	Code	TV2
	Basic ordering unit (pieces)	2500
2SC5880		○

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	60	V
Collector-emitter voltage	V_{CEO}	60	V
Emitter-base voltage	V_{EBO}	6	V
Collector current	DC	I_c	A
	Pulsed	I_{CP}	A *
Power dissipation	P_c	1.0	W
Junction temperature	t_j	150	°C
Range of storage temperature	t_{stg}	-55 to 150	°C

* $P_w=10ms$

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-emitter breakdown voltage	BV _{CBO}	60	—	—	V	I _c =1mA
Collector-base breakdown voltage	BV _{EBO}	60	—	—	V	I _e =100μA
Emitter-base breakdown voltage	BV _{EBO}	6	—	—	V	I _e =100μA
Collector cut-off current	I _{CBO}	—	—	1.0	μA	V _{CB} =40V
Emitter cut-off current	I _{EBO}	—	—	1.0	μA	V _{EB} =4V
Collector-emitter saturation voltage	V _{CE} (sat)	—	200	500	mV	I _c =1.0A I _b =0.1A
DC current gain	h _{FE}	120	—	390	—	V _{CE} =2V I _c =100mA
Transition frequency	f _T	—	200	—	MHz	V _{CE} =10V I _e =-100mA f=10MHz
Corrector output capacitance	C _{OB}	—	10	—	pF	V _{CB} =10V I _e =0mA f=1MHz
Turn-on time	t _{on}	—	50	—	ns	I _c =2A
Storage time	t _{stg}	—	120	—	ns	I _{b1} =200mA I _{b2} =-200mA
Fall time	t _f	—	35	—	ns	V _{CC} =25V

*Non repetitive pulse

●h_{FE} RANK

Q	R
120-270	180-390

●Electrical characteristic curves

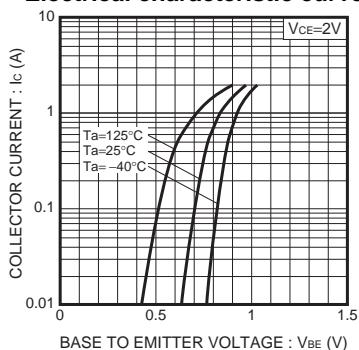


Fig.1 Grounded Emitter Propagation Characteristics

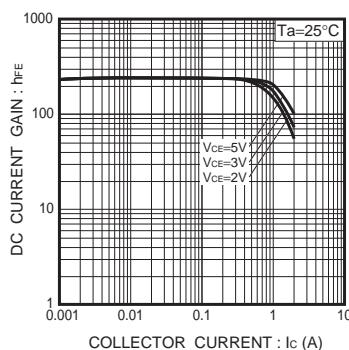


Fig.2 DC Current Gain vs. Collector Current (I)

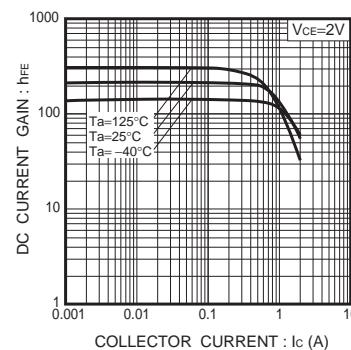


Fig.3 DC Current Gain vs. Collector Current (II)

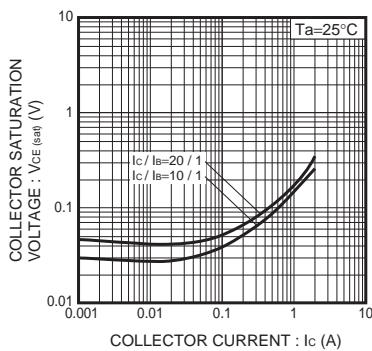


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (I)

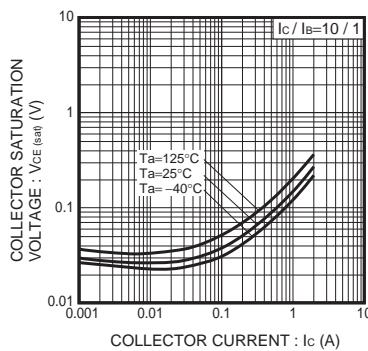


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (II)

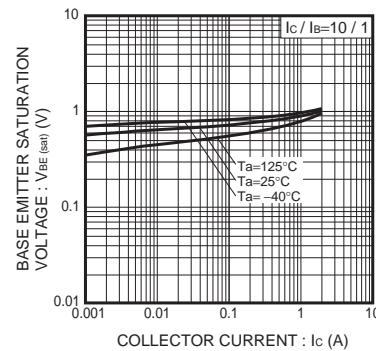


Fig.6 Base-Emitter Saturation Voltage vs. Collector Current

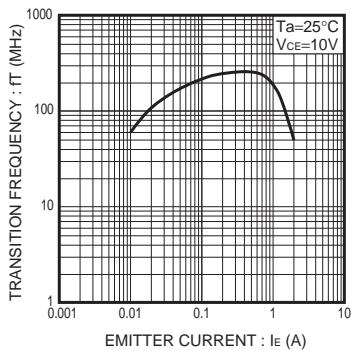


Fig.7 Transition Frequency

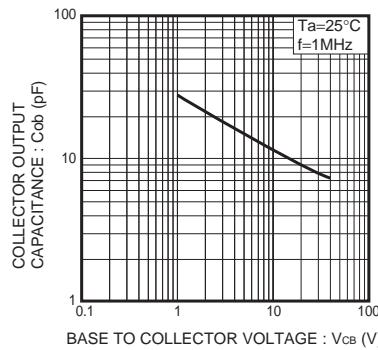


Fig.8 Collector Output Capacitance

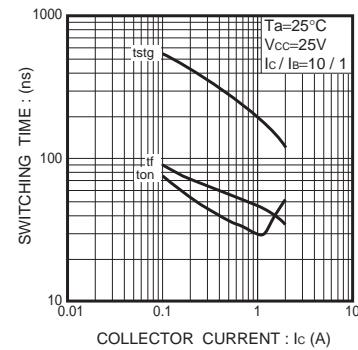
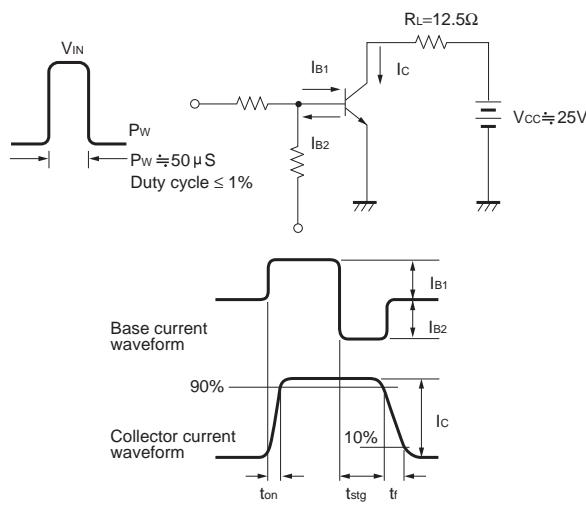


Fig.9 Switching Time

●Switching characteristics measurement circuits



Notes

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