Medium power transistor (60V, 0.5A) 2SC5876

Features

- 1) High speed switching. (Tf: Typ.: 80ns at Ic = 500mA)
- 2) Low saturation voltage, typically

(Typ.: 150mV at Ic = 100mA, IB = 10mA)

- 3) Strong discharge power for inductive load and capacitance load.
- 4) Complements the 2SA2088

Applications

Small signal low frequency amplifier High speed switching

●Structure

NPN Silicon epitaxial planar transistor

Packaging specifications

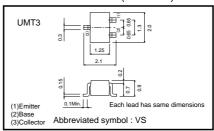
	Package	Taping
Type	Code	T106
	Basic ordering unit (pieces)	3000
2SC5876		0

● Absolute maximum ratings (Ta=25°C)

	•		
Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	60	V
Collector-emitter voltage	VCEO	60	V
Emitter-base voltage	Vево	6	V
Collector ourrent	Ic	0.5	А
Collector current	Іср	1.0	A *1
Power dissipation	Pc	200	mW *2
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	-55 to +150	°C

^{*1} Pw=10ms

●External dimensions (Unit: mm)



^{*2} Each terminal mounted on a recommended land.

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	60	-	_	V	Ic=100μA
Collector-emitter breakdown voltage	BVceo	60	_	_	V	Ic=1mA
Emitter-base breakdown voltage	ВVево	6	-	_	V	Iε=100μA
Collector cut-off current	Ісво	-	-	1.0	μΑ	Vcb=40V
Emitter cut-off current	ІЕВО	_	-	1.0	μΑ	V _{EB} =4V
Collector-emitter staturation voltage	VCE(sat)	_	150	300	mV	Ic=100mA, I _B =10mA
DC current gain	hfe	120	_	390	_	Vce=2V, Ic=50mA
Transition frequency	fT	_	300	_	MHz	VcE=10V, IE=-100mA, f=10MHz *1
Collector output capacitance	Cob	_	5	_	pF	Vcb=10V, Ie=0mA, f=1MHz
Turn-on time	ton	_	70	_	ns	Ic=500mA,
Storage time	tstg	_	130	_	ns	I _{B1} =50mA I _{B2} = -50mA
Fall time	tf	_	80	_	ns	Vcc≒25V *1

^{*1} Pulse measurement

●hfe RANK

Q	R
120-270	180-390

•Electrical characteristic curves

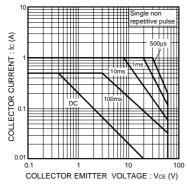


Fig.1 Safe operating area

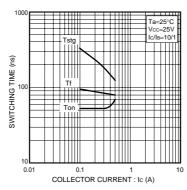


Fig.2 Switching Time

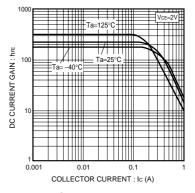


Fig.3 DC current gain vs. collector current

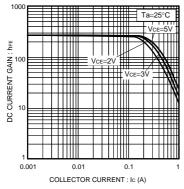


Fig.4 DC current gain vs. collector current

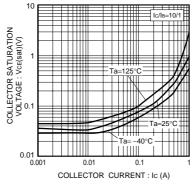


Fig.5 Collector-emitter saturation voltage vs. collector current

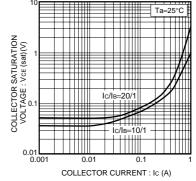


Fig.6 Collector-emitter saturation voltage vs. collector current

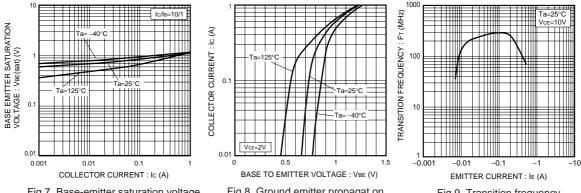


Fig.7 Base-emitter saturation voltage vs. collector current

Fig.8 Ground emitter propagat on characteristics

Fig.9 Transition frequency

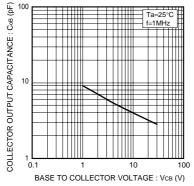
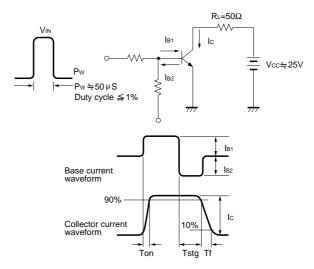


Fig.10 Collector output capacitance

•Switching characteristics measurement circuits



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