

2SC5826

Transistors

## Power transistor (60V, 3A)

## 2SC5826

## ●Features

- 1) High speed switching.  
( $T_f$ : Typ.: 30ns at  $I_c = 3A$ )
- 2) Low saturation voltage, typically  
(Typ.: 200mV at  $I_c = 2A$ ,  $I_B = 0.2mA$ )
- 3) Strong discharge power for inductive load and capacitance load.
- 4) Complements the 2SA2073

## ●Applications

Low frequency amplifier  
High speed switching

## ●Structure

NPN Silicon epitaxial planar transistor

## ●Packaging specifications

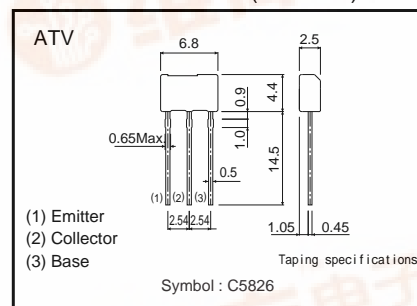
Type	Package	Taping
	Code	TV2
	Basic ordering unit (pieces)	2500
2SC5826		○

●Absolute maximum ratings ( $T_a = 25^\circ C$ )

Parameter		Symbol	Limits	Unit
Collector-base voltage		$V_{CB0}$	60	V
Collector-emitter voltage		$V_{CE0}$	60	V
Emitter-base voltage		$V_{EB0}$	6	V
Collector current	DC	$I_c$	3	A
	Pulsed	$I_{cP}$	6	A *
Power dissipation		$P_c$	1.0	W
Junction temperature		$T_j$	150	$^\circ C$
Range of storage temperature		$T_{stg}$	-55 to 150	$^\circ C$

\* $P_w = 100ms$ 

## ●External dimensions (Unit : mm)



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## ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-emitter breakdown voltage	$BV_{CEO}$	60	—	—	V	$I_C=1\text{mA}$
Collector-base breakdown voltage	$BV_{CBO}$	60	—	—	V	$I_C=100\mu\text{A}$
Emitter-base breakdown voltage	$BV_{EBO}$	6	—	—	V	$I_E=100\mu\text{A}$
Collector cut-off current	$I_{CBO}$	—	—	1.0	$\mu\text{A}$	$V_{CB}=40\text{V}$
Emitter cut-off current	$I_{EBO}$	—	—	1.0	$\mu\text{A}$	$V_{EB}=4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	200	500	mV	$I_C=2\text{A}$ $I_B=0.2\text{A}$ *1
DC current gain	$h_{FE}$	120	—	390	—	$V_{CE}=2\text{V}$ $I_C=100\text{mA}$
Transition frequency	$f_T$	—	200	—	MHz	$V_{CE}=10\text{V}$ *1 $I_E=-100\text{mA}$ $f=10\text{MHz}$
Collector output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB}=10\text{V}$ $I_E=0\text{mA}$ $f=1\text{MHz}$
Turn-on time	$T_{on}$	—	50	—	ns	$I_C=3\text{A}$ *2 $I_{B1}=300\text{mA}$ $I_{B2}=-300\text{mA}$ $V_{CC}\div 25\text{V}$
Storage time	$T_{stg}$	—	150	—	ns	
Fall time	$T_f$	—	30	—	ns	

\*1 Non repetitive pulse

\*2 See Switching characteristics measurement circuits

● $h_{FE}$  RANK

Q	R
120–270	180–390

## ●Electrical characteristic curves

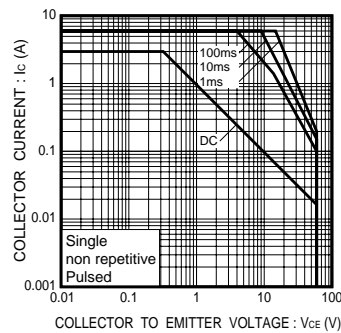


Fig.1 Safe Operating Area

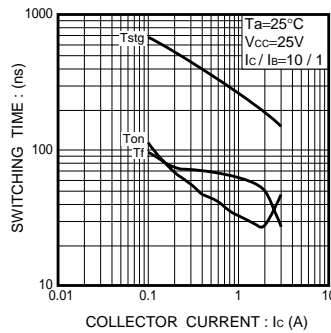


Fig.2 Switching Time

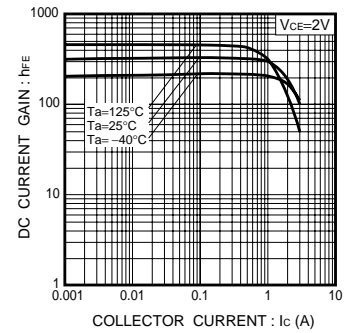


Fig.3 DC Current Gain vs. Collector Current (I)

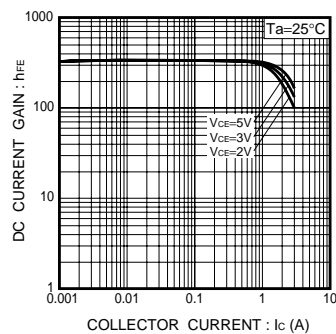


Fig.4 DC Current Gain vs. Collector Current (II)

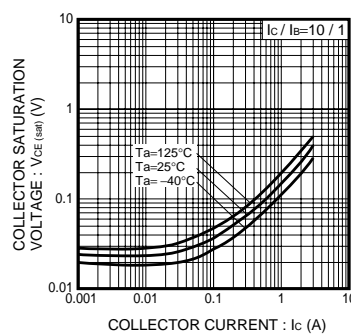


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

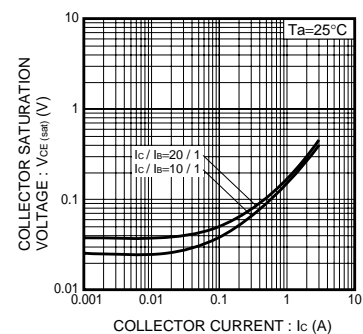


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

## Transistors

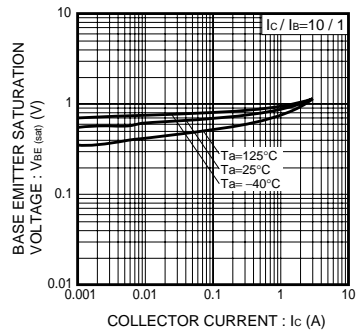


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

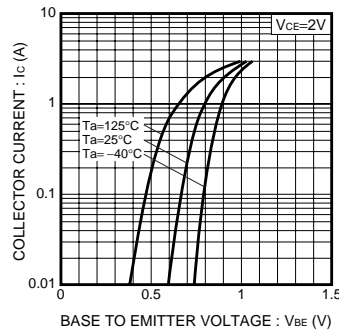


Fig.8 Grounded Emitter Propagation Characteristics

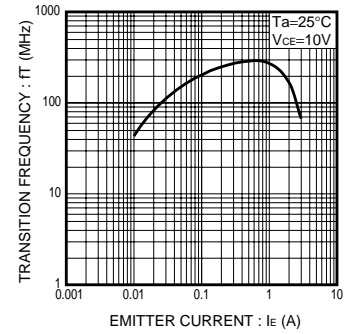


Fig.9 Transition Frequency

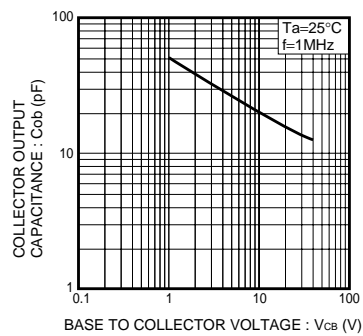
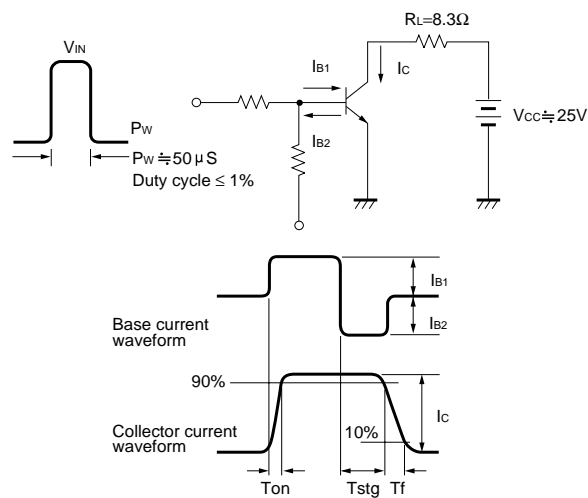


Fig.10 Collector Output Capacitance

### ●Switching characteristics measurement circuits



## Appendix

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