

High voltage discharge, High speed switching, Low Noise (–60V, –3A)

2SA2073

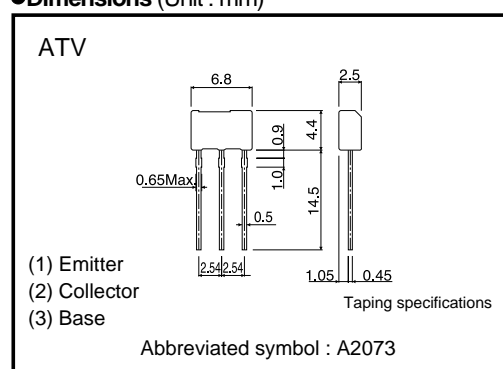
●Features

- 1) High speed switching. (t_f : Typ. : 20ns at $I_C = -3A$)
- 2) Low saturation voltage, typically.
(Typ. : –200mV at $I_C = -2.0A$, $I_B = -200mA$)
- 3) Strong discharge power for inductive load and capacitance load.
- 4) Low Noise.
- 5) Complements the 2SC5826.

●Applications

High speed switching, Low noise

●Dimensions (Unit : mm)



●Structure

PNP silicon epitaxial planar transistor

●Packaging specifications

Type	Package	Taping
	Code	TV2
	Basic ordering unit (pieces)	2500
2SA2073		○

●Absolute maximum ratings (Ta=25°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	°C
Range of storage temperature		t_{stg}	–55 to 150	°C

*Pw=10ms

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Collector-emitter breakdown voltage	BV _{CEO}	-60	—	—	V	I _C =-1mA
Collector-base breakdown voltage	BV _{CBO}	-60	—	—	V	I _C =-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 =-2.0A I _B =-200mA
DC current gain	h _{FE}	120	—	270	—	V _{CE} =-2V I _C =-100mA
Transistor frequency	f _T	—	200	—	MHz	V _{CE} =-10V I _E =100mA f=10MHz
Collector output capacitance	C _{ob}	—	40	—	pF	V _{CB} =-10V I _E =0mA f=1MHz
Turn-on time	t _{on}	—	20	—	ns	I _C =-3A I _{B1} =-300mA
Storage time	t _{stg}	—	130	—	ns	I _{B2} =300mA
Fall time	t _f	—	20	—	ns	V _{CC} =-25V

*1 Single pulse

*2 See switching characteristics measurement circuits

●h_{FE} RANK

Q
120-270

Transistors

●Electrical characteristics curves

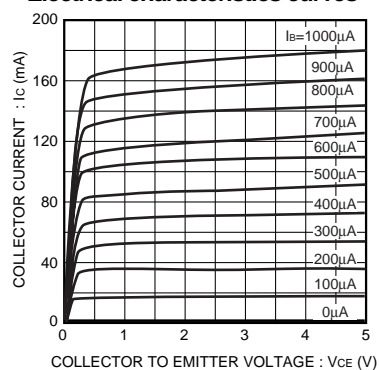


Fig.1 Typical output characteristics

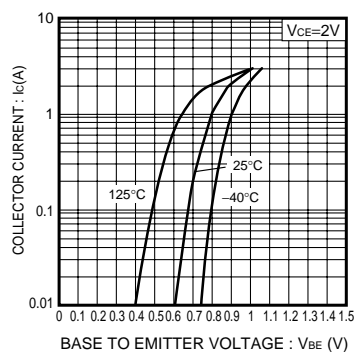


Fig.2 Grounded emitter propagation characteristics

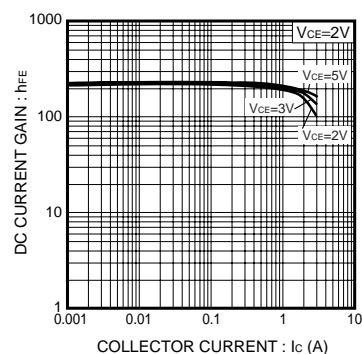


Fig.3 DC current gain vs. collector current (I)

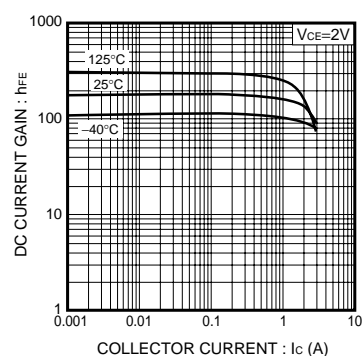


Fig.4 DC current gain vs. collector current (II)

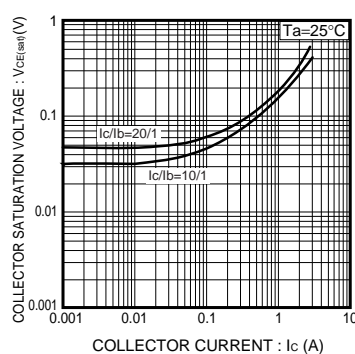


Fig.5 Collector-emitter saturation voltage vs. collector current (I)

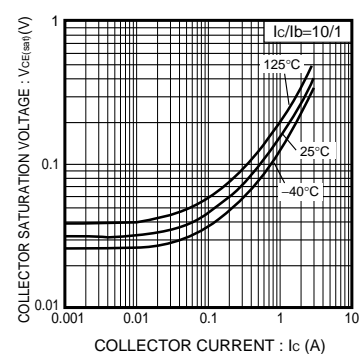


Fig.6 Collector-emitter saturation voltage vs. collector current (II)

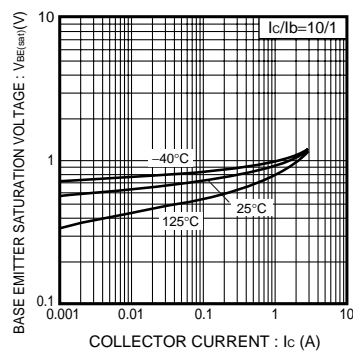


Fig.7 Base-emitter saturation voltage vs. collector current

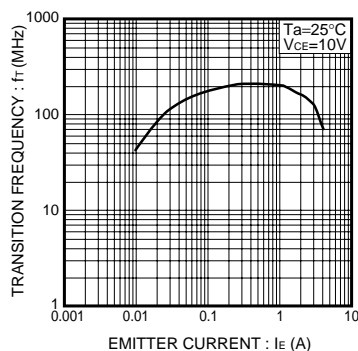


Fig.8 Transition frequency

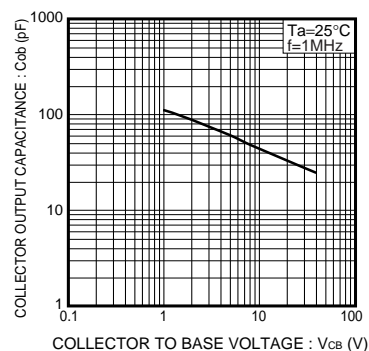


Fig.9 Collector output capacitance

Transistors

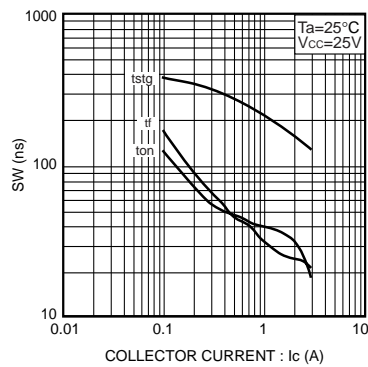


Fig.3 Switching Time

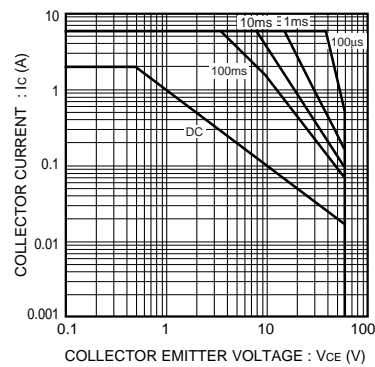
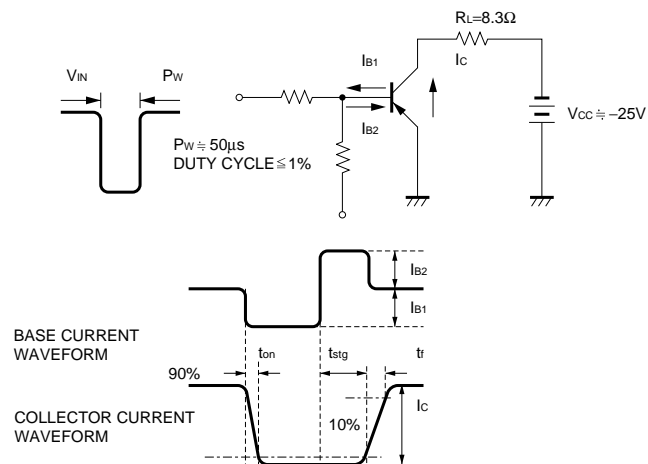


Fig.11 Safe operating area

●Switching characteristics measurement circuits



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