

2SC5060

- 1) Built-in zener diode between collector and base.
- 2) Zener diode has low voltage dispersion.
- 3) Strong protection against reverse power surges due to "L" loads.
- 4) Darlington connection for high DC current gain.
- 5) Built-in resistor between base and emitter.
- 6) Built-in damper diode.

B : Base
 C : Collector
 E : Emitter

$R_1 \cong 3k\Omega$
 $R_2 \cong 1k\Omega$

6.8

2.5

0.9

1.0

1.0

0.5

14.5

2.54

2.54

2.54

1.05

0.45

0.65Max.

(1) (2) (3)

Taping specifications

ROHM : ATV

(1) Emitter
(2) Collector
(3) Base

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CB0}	90±10	V
Collector-emitter voltage	V _{CE0}	90±10	V
Emitter-base voltage	V _{EB0}	6	V
Collector current	I _C	1	A(DC)
	I _{CP}	2	A(Pulse) ^{*1}
Collector power dissipation	P _C	1	W ^{*2}
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

*1 Single pulse Pw=10ms
*2 Printed circuit board : 1.7 mm thick collector copper plating at least 100mm²

Type	2SC5060
Package	ATV
h _{FE}	M
Code	TV2
Basic ordering unit (pieces)	2500

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	80	—	100	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	80	—	100	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	6	—	—	V	$I_E=5mA$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB}=70V$
Emitter cutoff current	I_{EBO}	—	—	3	mA	$V_{EB}=5V$
DC current transfer ratio	h_{FE}	1000	—	5000	—	$V_{CE}=3V, I_C=0.5A$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C/I_B=500mA/1mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	2	V	$I_C/I_B=500mA/1mA$
Transition frequency	f_T	—	80	—	MHz	$V_{CB}=5V, I_E=-0.1A, f=30MHz$
Output capacitance	C_{ob}	—	20	—	pF	$V_{CE}=10V, I_E=0A, f=1MHz$
Turn-on time	t_{on}	—	0.2	—	μs	$I_C=0.8A, R_L=50\Omega$
Storage time	t_{stg}	—	5	—	μs	$I_{B1}= -I_{B2}=8mA$
Fall time	t_f	—	0.6	—	μs	$V_{CC}=40V$

*1 Measured using pulse current. *2 Transition frequency of the device.

Transistors

●Electrical characteristics curves

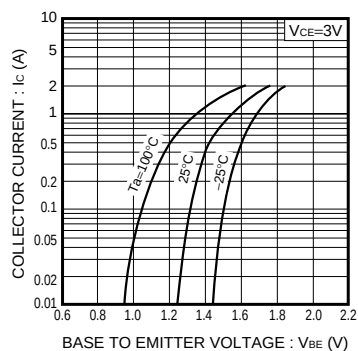


Fig.1 Ground emitter propagation characteristics

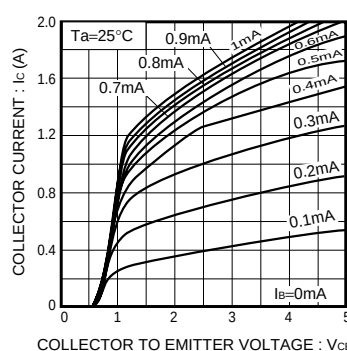


Fig.2 Ground emitter output characteristics(I)

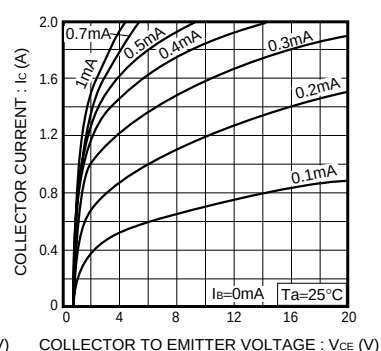


Fig.3 Ground emitter output characteristics(II)

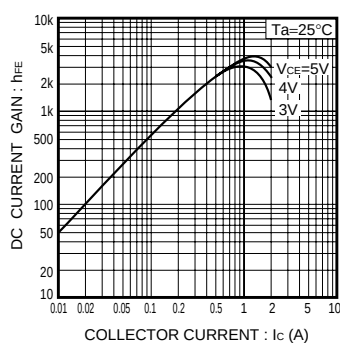


Fig.4 DC current gain vs. collector current (I)

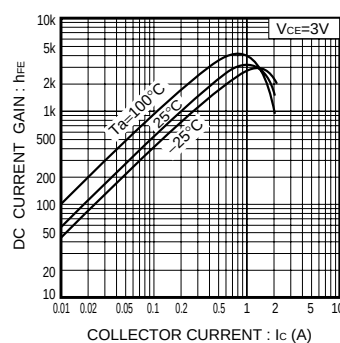


Fig.5 DC current gain vs. collector current(II)

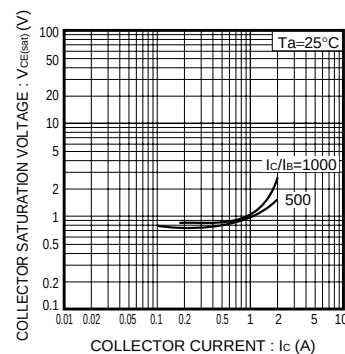


Fig.6 Collector-emitter saturation voltage vs. collector current

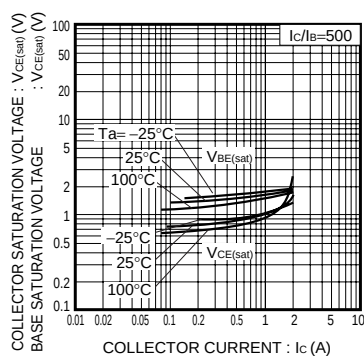


Fig.7 Collector-emitter saturation voltage vs. collector current

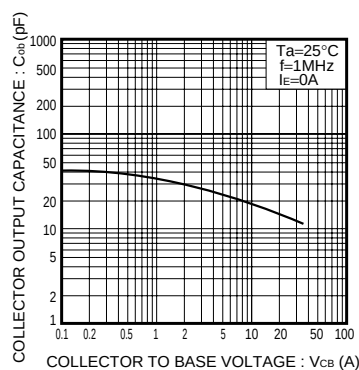


Fig.8 Collector output capacitance vs. collector-base voltage

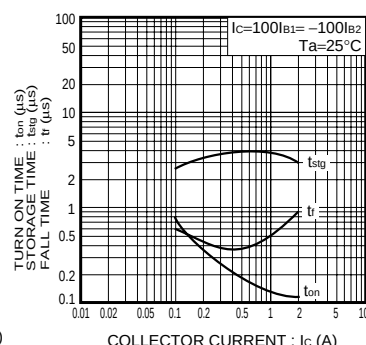
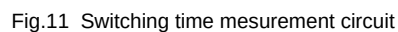
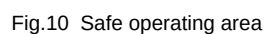


Fig.9 Switching characteristics



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