

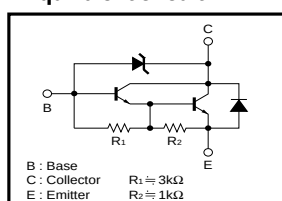
Power transistor (90±10V, 3A)

2SC5060

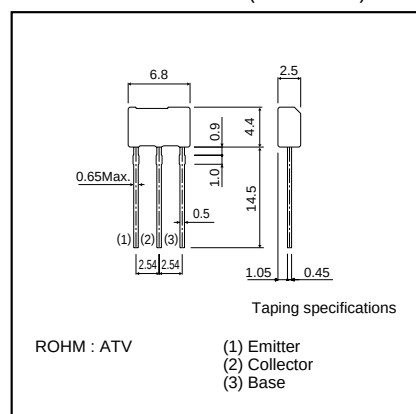
●Features

- 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.

●Equivalent circuit



●External dimensions (Units : mm)



●Absolute maximum ratings (Ta=25°C)

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~+150	°C

⁺¹ Single pulse P_{av}≤10ms

⁺² Printed circuit board : 1.7 mm thick, collector copper plating at least 100mm².

●Packaging specifications and hFE

Type	2SC5060
Package	ATV
hFE	M
Code	TV2
Basic ordering unit (pieces)	2500

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	80	—	100	V	I _C =50μA
Collector-emitter breakdown voltage	BV _{CE0}	80	—	100	V	I _C =1mA
Collector cutoff current	I _{CB0}	—	—	10	μA	V _{CB} =70V
Emitter cutoff current	I _{EB0}	—	—	3	mA	V _{EB} =5V
DC current transfer ratio	h _{FE}	1000	—	2500	—	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 _{CE} =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 _{CE} =50Ω
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.