

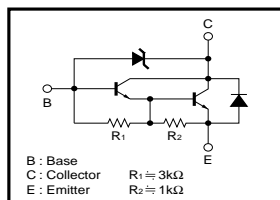
Power transistor (90±10V, 3A)

2SC5060

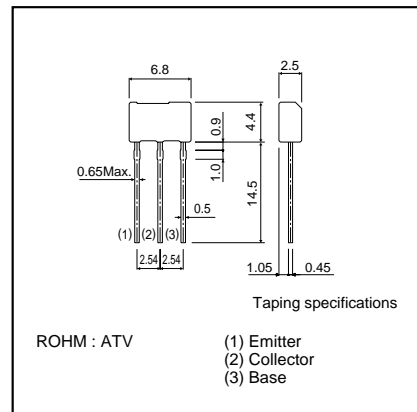
●Features

- 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_{CBO}	80	—	100	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	80	—	100	V	$I_C=1mA$
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	—	2500	—	$V_{CE}=3V, I_C=0.5A$ *1
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C/I_E=500mA/1mA$
Base-emitter saturation voltage	$V_{BE(sat)}$	—	—	2	V	$I_C/I_E=500mA/1mA$ *1
Transition frequency	f_T	—	80	—	MHz	$V_{CE}=5V, I_E=0.1A, f=30MHz$ *2
Output capacitance	C_{ob}	—	20	—	pF	$V_{CE}=10V, I_E=0A, f=1MHz$
Turn-on time	t_{on}	—	0.2	—	μs	$I_C=0.8A, R_{\theta}=50\Omega$
Storage time	t_{sg}	—	5	—	μs	$I_B=I_C=8mA$
Fall time	t_f	—	0.6	—	μs	$V_{CC}=40V$

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