Panasonic

2SC5412

Silicon NPN triple diffusion mesa type
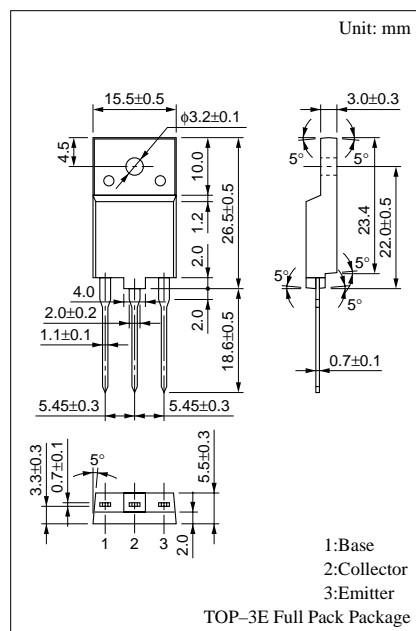
For horizontal deflection output

■ Features

- High breakdown voltage, and high reliability through the use of a glass passivation layer
- High-speed switching
- Wide area of safe operation (ASO)
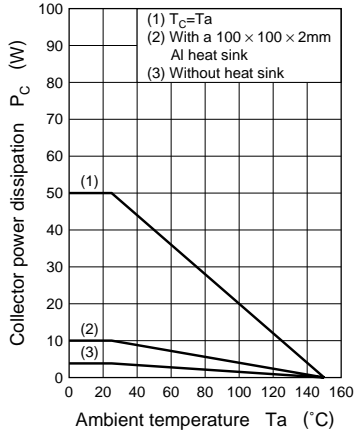
■ Absolute Maximum Ratings (T_C=25°C)

Parameter		Symbol	Ratings	Unit
Collector to base voltage		V_{CBO}	1700	V
Collector to emitter voltage		V_{CES}	1700	V
		V_{CEO}	600	V
Emitter to base voltage		V_{EBO}	5	V
Peak collector current		I_{CP}	8	A
Collector current		I_C	4	A
Base current		I_B	3	A
Collector power dissipation	T_C=25°C	P_C	50	W
	Ta=25°C		3	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

Unit: mm

1:Base
2:Collector
3:Emitter
TOP–3E Full Pack Package

■ Electrical Characteristics (T_C=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 1000V, I_E = 0			50	μA
		V_{CB} = 1700V, I_E = 0			1	mA
Emitter cutoff current	I_{EBO}	V_{EB} = 5V, I_C = 0			50	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 5V, I_C = 2.5A	5		12	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 2.5A, I_B = 625mA			3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 2.5A, I_B = 625mA			1.5	V
Transition frequency	f_T	V_{CE} = 10V, I_C = 0.1A, f = 0.5MHz		3		MHz
Storage time	t_{stg}	I_C = 2.5A, I_{B1} = 625mA, I_{B2} = 1.25A			4.0	μs
Fall time	t_f				0.3	μs

P_C — Ta

(1) T_C=Ta
(2) With a $100 \times 100 \times 2mm$
    Al heat sink
(3) Without heat sink

Collector power dissipation P_C (W)

(1)
(2)
(3)

Ambient temperature   Ta   (°C)

Area of safe operation (ASO)

Collector current I_C (A)

I_{CP}
I_C
10ms
t=100µs
1ms
DC
V_{CEO} max.

Collector to emitter voltage V_{CE} (V)
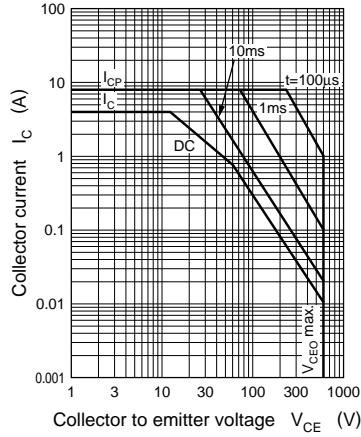
Area of safe operation, horizontal operation ASO

f=64kHz, T_C<90°C
Area of safe operation with
respect to the single pulse
overload curve at the time of
switching ON, shutting down
by the high voltage spark,
holding down and like that,
during horizontal operation.

Collector current I_C (A)

<1mA

Collector to emitter voltage V_{CE} (V)