Panasonic

2SC5243

Silicon NPN triple diffusion mesa type
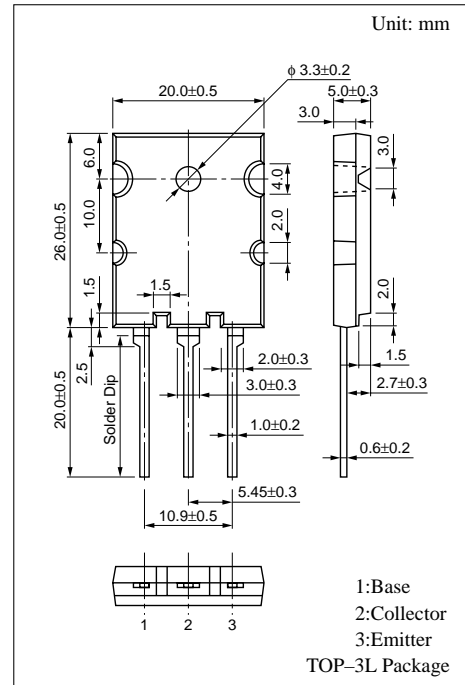
For horizontal deflection output

■ 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
Emitter to base voltage		V_{EBO}	6	V
Collector current		I_C	15	A
Peak collector current		I_{CP}^*	30	A
Peak base current		I_{BP}	10	A
Collector power dissipation	T_C=25°C	P_C	200	W
	Ta=25°C		3.5	
Junction temperature		T_j	150	˚C
Storage temperature		T_{stg}	−55 to +150	˚C

*Non-repetitive peak

Unit: mm

1:Base
2:Collector
3:Emitter
TOP–3L Package

■ Electrical Characteristics (T_C=25˚C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	I_{CBO}	V_{CB} = 1700V, I_E = 0			1	μA
Emitter cutoff current	I_{EBO}	V_{EB} = 5V, I_C = 0			50	μA
Forward current transfer ratio	h_{FE}	V_{CE} = 5V, I_C = 10A	5		12	
Collector to emitter saturation voltage	$V_{CE(sat)}$	I_C = 10A, I_B = 2.8A			3	V
Base to emitter saturation voltage	$V_{BE(sat)}$	I_C = 10A, I_B = 2.8A			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 = 12A, I_{B1} = 2.4A, I_{B2} = −4.8A,		1.5	2.5	μs
Fall time	t_f	Resistance loaded		0.12	0.2	μs

P_C — Ta

Collector power dissipation P_C (W)

(1) T_C=Ta
(2) With a 100 × 100 × 2mm Al heat sink
(3) Without heat sink (P_C=3.0W)

(1)
(2)
(3)

Ambient temperature Ta (˚C)

I_C — V_{CE}

Collector current I_C (A)

T_C=25˚C

I_B=1000mA
800mA
600mA
400mA
200mA

Collector to emitter voltage V_{CE} (V)

h_{FE} — I_C

Forward current transfer ratio h_{FE}

V_{CE}=5V

T_C=100˚C
25˚C
−25˚C

Collector current I_C (A)

$V_{CE(sat)}$ — I_C

Collector to emitter saturation voltage $V_{CE(sat)}$ (V)

I_C/I_B=3.5

T_C=−25˚C
25˚C
100˚C

Collector current I_C (A)

$V_{BE(sat)}$ — I_C

Base to emitter saturation voltage $V_{BE(sat)}$ (V)

I_C/I_B=3.5

T_C=−25˚C
25˚C
100˚C

Collector current I_C (A)

Area of safe operation, horizontal operation ASO

Collector current I_C (A)

f=64kHz, T_C=25˚C
Area of safe operation for the single pulse load curve due to discharge in the high-voltage rectifier tube during horizontal operation

<1mA

Collector to emitter voltage V_{CE} (V)

$R_{th(t)}$ — t

Thermal resistance $R_{th}(t)$ (˚C/W)

Note: R_{th} was measured at Ta=25˚C and under natural convection
(1) P_T=10V × 0.3A (3W) and without heat sink
(2) P_T=10V × 1.0A (10W) and with a 100 × 100 × 2mm Al heat sink

(1)
(2)

Time t (s)