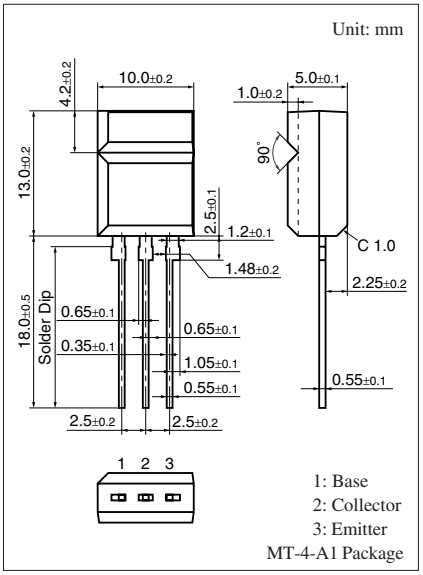
2SC5841

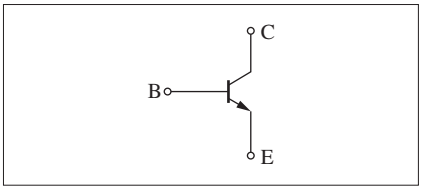
Silicon NPN epitaxial planar type

Power supply for Audio & Visual equipments
such as TVs and VCRs
Industrial equipments such as DC-DC converters



Marking Symbol: C5841

Internal Connection



■ Features

- High-speed switching (t_{stg}: storage time/t_f: fall time is short)
- Low collector-emitter saturation voltage $V_{CE(sat)}$
- Superior forward current transfer ratio h_{FE} linearity
- Allowing supply with the radial taping (MT-4)

■ Absolute Maximum Ratings $T_C = 25°C$

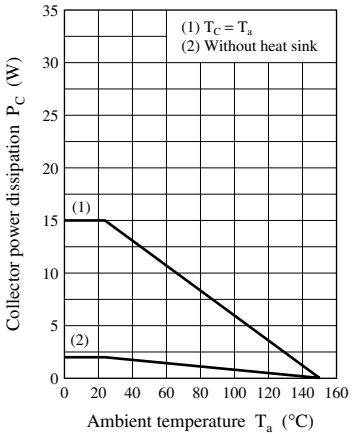
Parameter		Symbol	Rating	Unit
Collector-base voltage (Emitter open)		V_{CBO}	80	V
Collector-emitter voltage (Base open)		V_{CEO}	80	V
Emitter-base voltage (Collector open)		V_{EBO}	5	V
Collector current		I_C	3	A
Peak collector current		I_{CP}	5	A
Collector power dissipation	$T_C = 25°C$	P_C	15	W
	$T_a = 25°C$		2	
Junction temperature		T_j	150	°C
Storage temperature		T_{stg}	−55 to +150	°C

■ Electrical Characteristics $T_C = 25°C \pm 3°C$

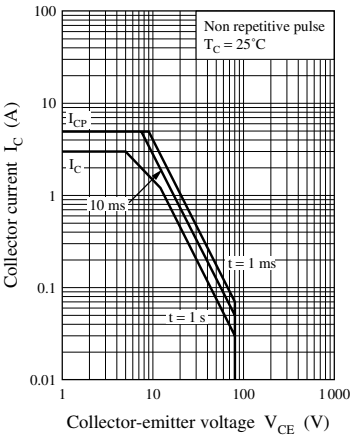
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	V_{CEO}	I_C = 10 mA, I_B = 0	80			V
Collector-base cutoff current (Emitter open)	I_{CBO}	V_{CB} = 80 V, I_E = 0			100	µA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = 80 V, I_B = 0			100	µA
Forward current transfer ratio	h_{FE1}	V_{CE} = 4 V, I_C = 0.2 A	50			—
	h_{FE2}	V_{CE} = 4 V, I_C = 1 A	80		280	
	h_{FE3}	V_{CE} = 4 V, I_C = 3 A	20			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C = 3 A, I_B = 375 mA			0.7	V
Transition frequency	f_T	V_{CE} = 10 V, I_C = 0.1 A, f = 10 MHz		100		MHz
Turn-on time	t_{on}	I_C = 1 A, Resistance loaded		0.2		µs
Storage time	t_{stg}	I_{B1} = 0.1 A, I_{B2} = − 0.1 A		0.9		µs
Fall time	t_f	V_{CC} = 50 V		0.15		µs

Note) Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

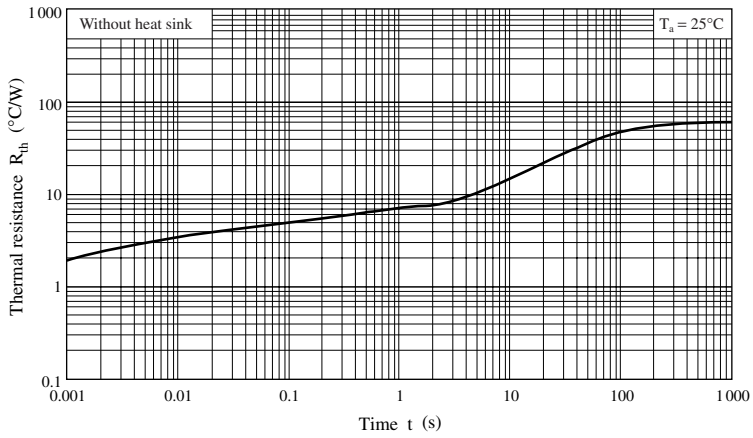
P_C — T_a



Safe operation area



R_{th} — t



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