

2SC5018

Silicon NPN triple diffusion planar type

For high breakdown voltage high-speed switching

■ Features

- High collector-base voltage (Emitter open) V_{CBO}
- High collector-emitter voltage (Base open) V_{CEO}

■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	V_{CBO}	500	V
Collector-emitter voltage (Base open)	V_{CEO}	400	V
Emitter-base voltage (Collector open)	V_{EBO}	7	V
Collector current	I_C	0.8	A
Peak collector current *1	I_{CP}	1.5	A
Collector power dissipation *2	P_C	1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

Note) *1: Pulse width: $t = 10 \text{ ms}$

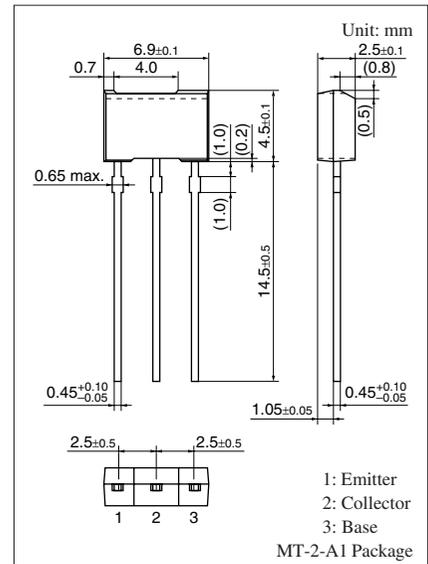
*2: Copper plate at the collector is more than 1 cm^2 in area, 1.7 mm in thickness

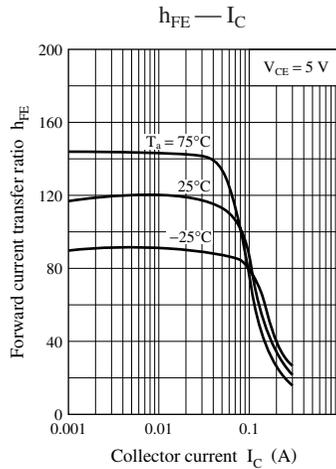
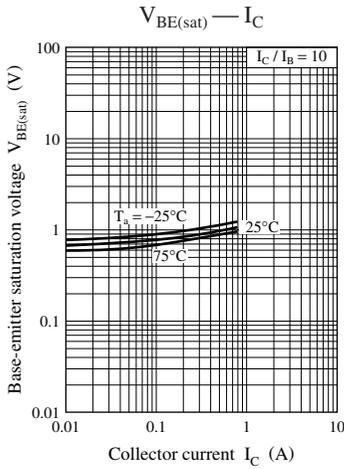
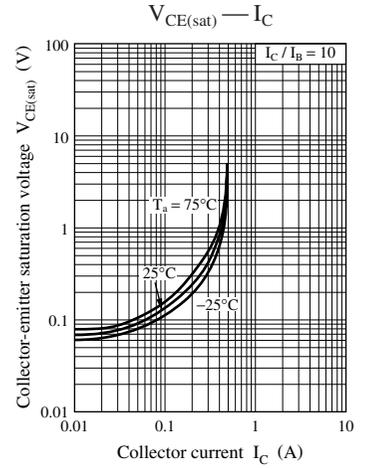
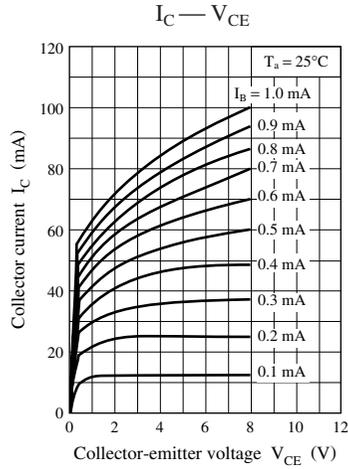
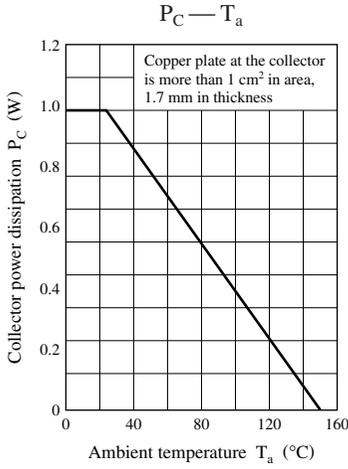
■ Electrical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base cutoff current (Emitter open)	I_{CBO}	$V_{CB} = 500 \text{ V}, I_E = 0$			100	μA
Emitter-base cutoff current (Collector open)	I_{EBO}	$V_{EB} = 7 \text{ V}, I_C = 0$			100	μA
Forward current transfer ratio	h_{FE1}	$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}$	50		300	—
	h_{FE2}^*	$V_{CE} = 5 \text{ V}, I_C = 300 \text{ mA}$	10			
Collector-emitter saturation voltage *	$V_{CE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.1	0.5	V
Base-emitter saturation voltage *	$V_{BE(sat)}$	$I_C = 100 \text{ mA}, I_B = 10 \text{ mA}$		0.8	1.0	V
Transition frequency	f_T	$V_{CB} = 10 \text{ V}, I_E = -50 \text{ mA}, f = 10 \text{ MHz}$		20		MHz
Turn-on time	t_{on}	$I_C = 200 \text{ mA}, I_{B1} = 40 \text{ mA}$		0.7		μs
Storage time	t_{stg}	$I_{B2} = -40 \text{ mA}, V_{CC} = 150 \text{ V}$		4.0		μs
Fall time	t_f			0.4		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. *: Pulse measurement





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