

# 2SC5018

## Silicon NPN triple diffusion planer type

For high breakdown voltage high-speed switching

### Features

- High collector to base voltage  $V_{CBO}$
- High emitter to base voltage  $V_{EBO}$

### Absolute Maximum Ratings (Ta=25°C)

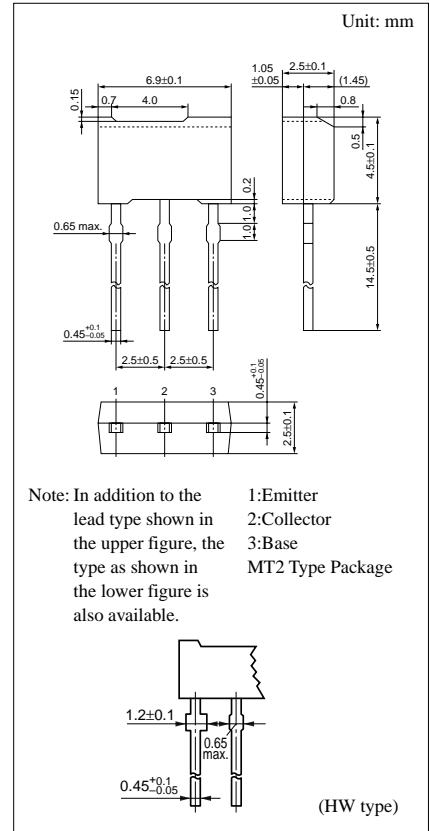
Parameter	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	500	V
Collector to emitter voltage	$V_{CEO}$	400	V
Emitter to base voltage	$V_{EBO}$	7	V
Peak collector current	$I_{CP}$	1.5	A
Collector current	$I_C$	0.8	A
Collector power dissipation	$P_C^*$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 ~ +150	°C

\* Printed circuit board: Copper foil area of 1cm<sup>2</sup> or more, and the board thickness of 1.7mm for the collector portion

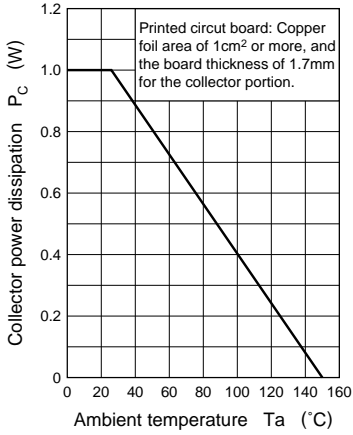
### Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 500V, I_E = 0$			100	μA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 7V, I_C = 0$			100	μA
Forward current transfer ratio	$h_{FE1}$	$V_{CE} = 5V, I_C = 10mA$	50		300	
	$h_{FE2}$	$V_{CE} = 5V, I_C = 300mA^{*1}$	10			
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100mA, I_B = 10mA^{*1}$		0.1	0.5	V
Base to emitter saturation voltage	$V_{BE(sat)}$	$I_C = 100mA, I_B = 10mA^{*1}$		0.8	1.0	V
Transition frequency	$f_T$	$V_{CB} = 10V, I_E = -50mA, f = 10MHz$		20		MHz
Turn-on time	$t_{on}$	$I_C = 200mA, I_{B1} = 40mA$ $I_{B2} = -40mA, V_{CC} = 150V$		0.7		μs
Storage time	$t_{stg}$			4.0		μs
Fill time	$t_f$			0.4		μs

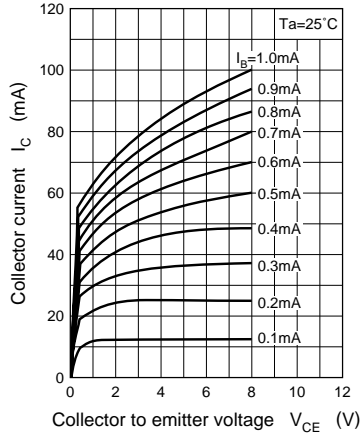
\*1 Pulse measurement



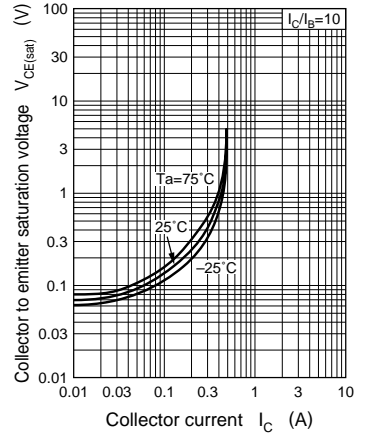
$P_C - T_a$



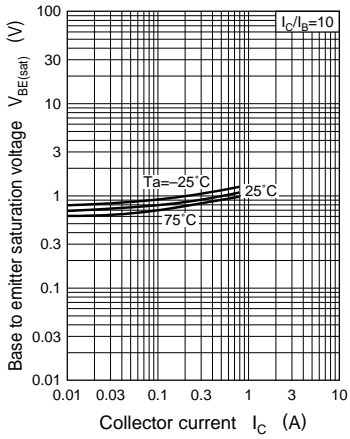
$I_C - V_{CE}$



$V_{CE(sat)} - I_C$



$V_{BE(sat)} - I_C$



$h_{FE} - I_C$

