

# 2SD2453

## Silicon NPN triple diffusion planar type

For high current transfer ratio and power amplification

### ■ Features

- High forward current transfer ratio  $h_{FE}$
- Low collector-emitter saturation voltage  $V_{CE(sat)}$

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

Parameter	Symbol	Rating	Unit
Collector-base voltage (Emitter open)	$V_{CBO}$	80	V
Collector-emitter voltage (Base open)	$V_{CEO}$	60	V
Emitter-base voltage (Collector open)	$V_{EBO}$	6	V
Collector current	$I_C$	2	A
Peak collector current *	$I_{CP}$	4	A
Base current	$I_B$	1	A
Collector power dissipation	$P_C$	10	W
	$T_C = 25^\circ\text{C}$	1	
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

Note) Non-repetitive peak collector current

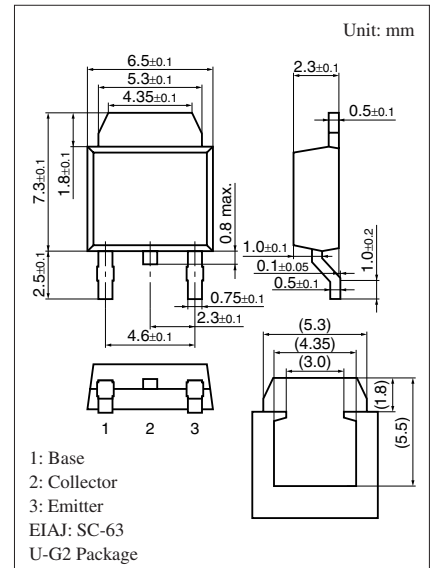
### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	$I_C = 25 \text{ mA}, I_B = 0$	60			V
Collector-base cutoff current (Emitter open)	$I_{CBO}$	$V_{CB} = 80 \text{ V}, I_E = 0$			100	$\mu\text{A}$
Collector-emitter cutoff current (Base open)	$I_{CEO}$	$V_{CE} = 40 \text{ V}, I_B = 0$			100	$\mu\text{A}$
Emitter-base cutoff current (Collector open)	$I_{EBO}$	$V_{EB} = 6 \text{ V}, I_C = 0$			100	$\mu\text{A}$
Forward current transfer ratio *	$h_{FE}$	$V_{CE} = 4 \text{ V}, I_C = 0.5 \text{ A}$	500		2500	—
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 2 \text{ A}, I_B = 0.05 \text{ A}$			1	V
Transition frequency	$f_T$	$V_{CE} = 12 \text{ V}, I_C = 0.2 \text{ A}, f = 10 \text{ MHz}$		50		MHz

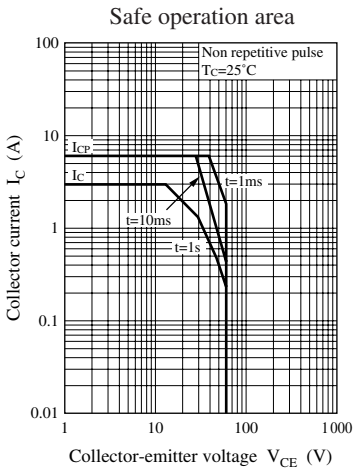
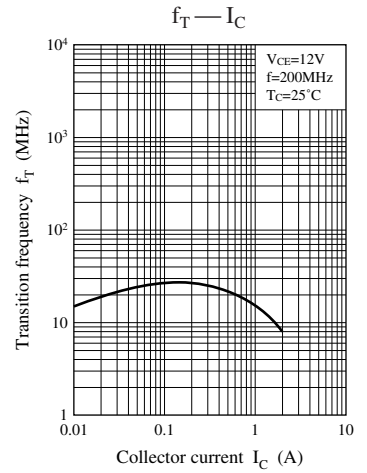
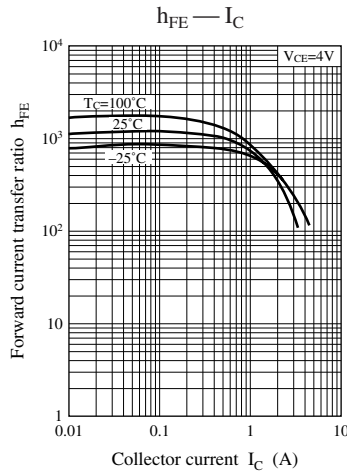
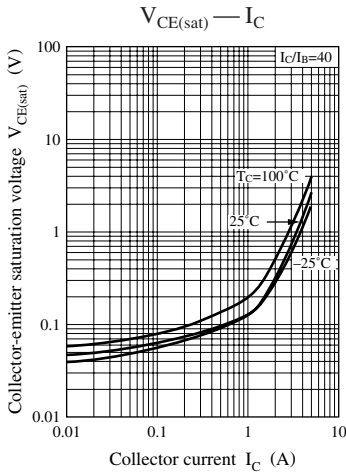
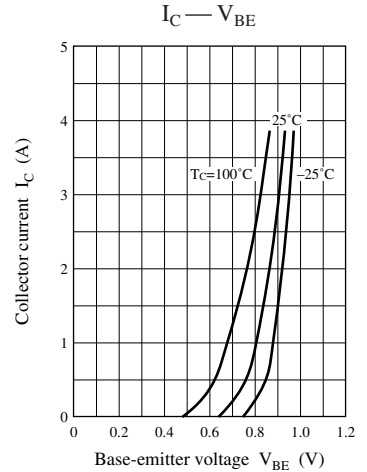
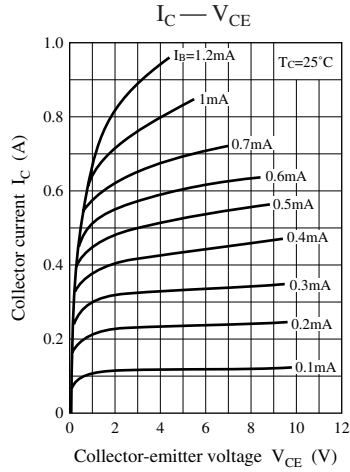
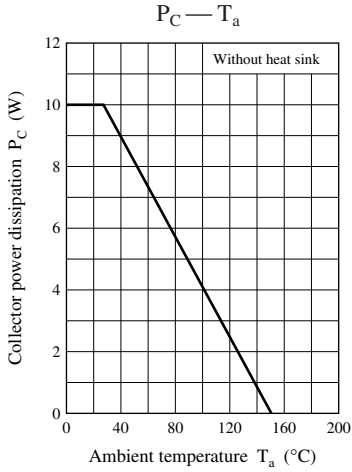
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*: Rank classification

Rank	Q	R	S
$h_{FE}$	500 to 1000	800 to 1500	1200 to 2500



Note) Self-supported type package is also prepared.



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