

# General purpose transistor(-50V,-0.1A)

## 2SAR523M/2SAR523EB/2SAR523UB

**●Structure**

PNP silicon epitaxial planar transistor

**●Features**

Complements the 2SCR523M/2SCR523EB/2SCR523UB.

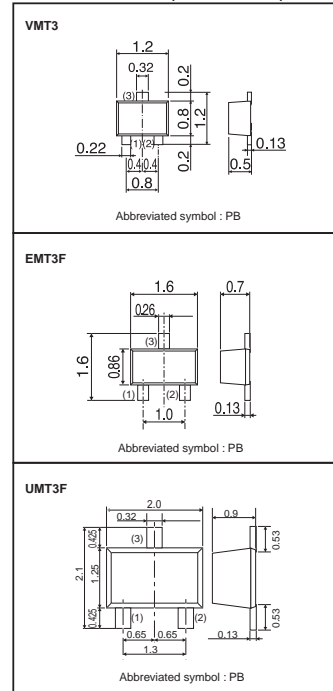
**●Applications**

Switch, LED driver

**●Packaging specifications**

Type	Package	VMT3	EMT3F	UMT3F
	Packaging Type	Taping	Taping	Taping
	Code	T2L	TL	TL
	Basic ordering unit (pieces)	8000	3000	3000
2SAR523M		○	—	—
2SAR523EB		—	○	—
2SAR523UB		—	—	○

**●Dimensions (Unit : mm)**



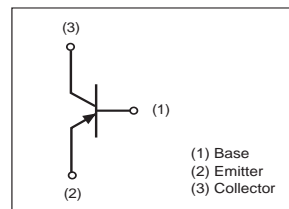
**● Absolute maximum ratings (Ta=25°C)**

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-100	mA
	I <sub>CP</sub> *1	-200	mA
Power dissipation	P <sub>D</sub> *2	150	mW
		200	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\*1 Pw=1mS Single pulse

\*2 Each terminal mounted on a recommended land

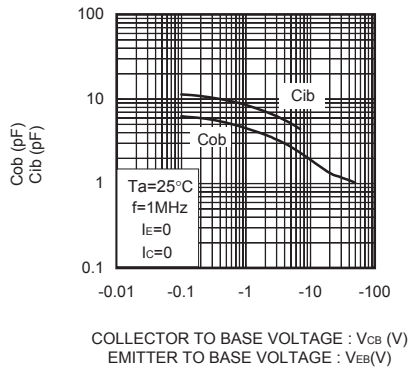
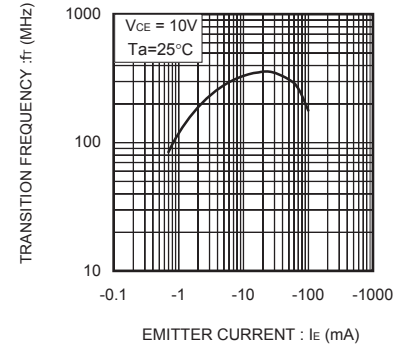
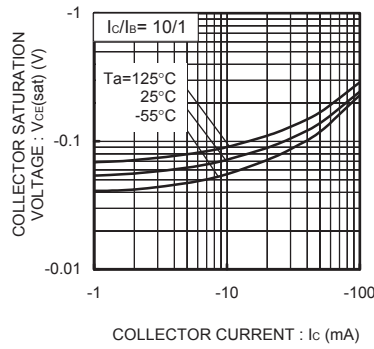
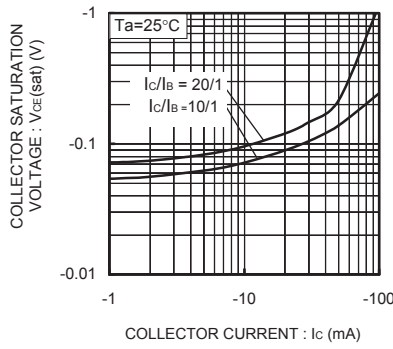
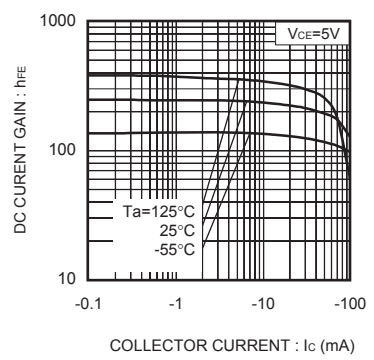
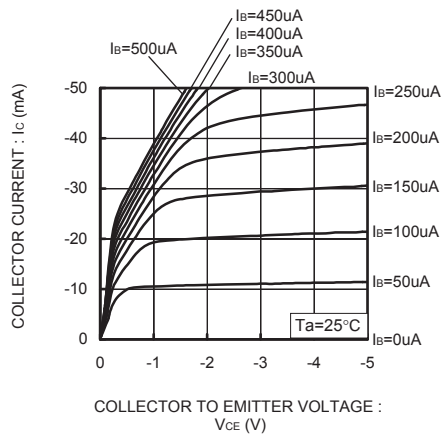
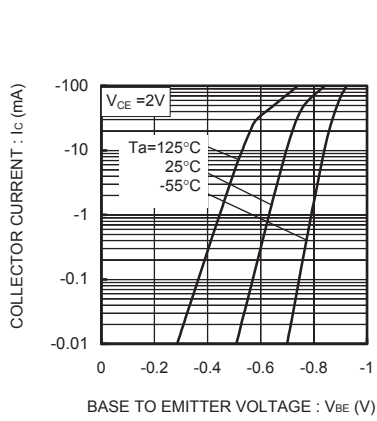
**●inner circuit**



**●Electrical characteristics (Ta=25°C)**

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-50	-	-	V	I <sub>C</sub> = -1mA
Collector-base breakdown voltage	BV <sub>CBO</sub>	-50	-	-	V	I <sub>C</sub> = -50μA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-5	-	-	V	I <sub>E</sub> = -50μA
Collector cut-off current	I <sub>CBO</sub>	-	-	-0.1	μA	V <sub>CB</sub> = -50V
Emitter cut-off current	I <sub>EBO</sub>	-	-	-0.1	μA	V <sub>EB</sub> = -5V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-0.15	-0.40	V	I <sub>C</sub> = -50mA, I <sub>B</sub> = -5mA
DC current gain	h <sub>FE</sub>	120	-	560	-	V <sub>CE</sub> = -6V, I <sub>C</sub> = -1mA
Transition frequency	f <sub>T</sub>	-	300	-	MHz	V <sub>CE</sub> = -10V, I <sub>E</sub> =10mA, f=100MHz
Output capacitance	C <sub>ob</sub>	-	2	-	pF	V <sub>CB</sub> = -10V, I <sub>E</sub> =0A, f=1MHz

●Electrical characteristics curves



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