

General purpose transistor(-20V,-0.2A)

2SAR522M / 2SAR522EB / 2SAR522UB

● Structure

PNP silicon epitaxial planar transistor

●Features

Complements the 2SCR522M / 2SCR522EB / 2SCR522UB.

●Applications

Switch, LED driver

●Packaging specifications

Packaging specifications				
Type	Package	VMT3	EMT3F	UMT3F
	Packaging Type	Taping	Taping	Taping
	Code	T2L	TL	TL
	Basic ordering unit (pieces)	8000	3000	3000
2SAR522M		○	—	—
2SAR522EB		—	○	—
2SAR522UB		—	—	○

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

Parameter		Symbol	Limits	Unit
Collector-base voltage		V_{CBO}	-20	V
Collector-emitter voltage		V_{CEO}	-20	V
Emitter-base voltage		V_{EBO}	-5	V
Collector current		I_C	-200	mA
		I_{CP}^{*1}	-400	mA
Power dissipation	2SAR522M, 2SAR522EB	P_D^{*2}	150	mW
	2SAR522UB		200	mW
Junction temperature		T_j	150	°C
Storage temperature		T_{sta}	-55 to +150	°C

*1 Pw=1mS Single pulse

*2 Each terminal mounted on a recommended land

● **Dimensions** (Unit : mm)

Dimensions (Unit : mm)

VMT3

Technical drawing of the VMT3 valve. The front view shows a square body with a central port. Dimensions include a total width of 1.2, a central port width of 0.32, and a side port width of 0.2. The body thickness is 0.8. The side view shows a total height of 1.2 and a side port height of 0.13. The drawing is labeled with (1) and (2) for the main body and side port respectively.

Abbreviated symbol : PC

EMT3F

Technical drawing of the EMT3F valve. The front view shows a rectangular body with a central port. Dimensions include a total width of 1.6, a central port width of 0.26, and a side port width of 0.1. The body thickness is 0.08. The side view shows a total height of 0.7 and a side port height of 0.13. The drawing is labeled with (1) and (2) for the main body and side port respectively.

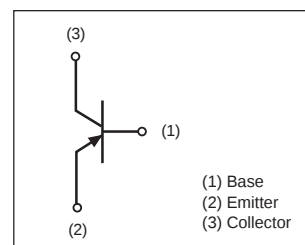
Abbreviated symbol : PC

UMT3F

Technical drawing of the UMT3F valve. The front view shows a rectangular body with a central port. Dimensions include a total width of 2.0, a central port width of 0.32, and a side port width of 0.1. The body thickness is 0.45. The side view shows a total height of 0.9 and a side port height of 0.13. The drawing is labeled with (1) and (2) for the main body and side port respectively.

Abbreviated symbol : PC

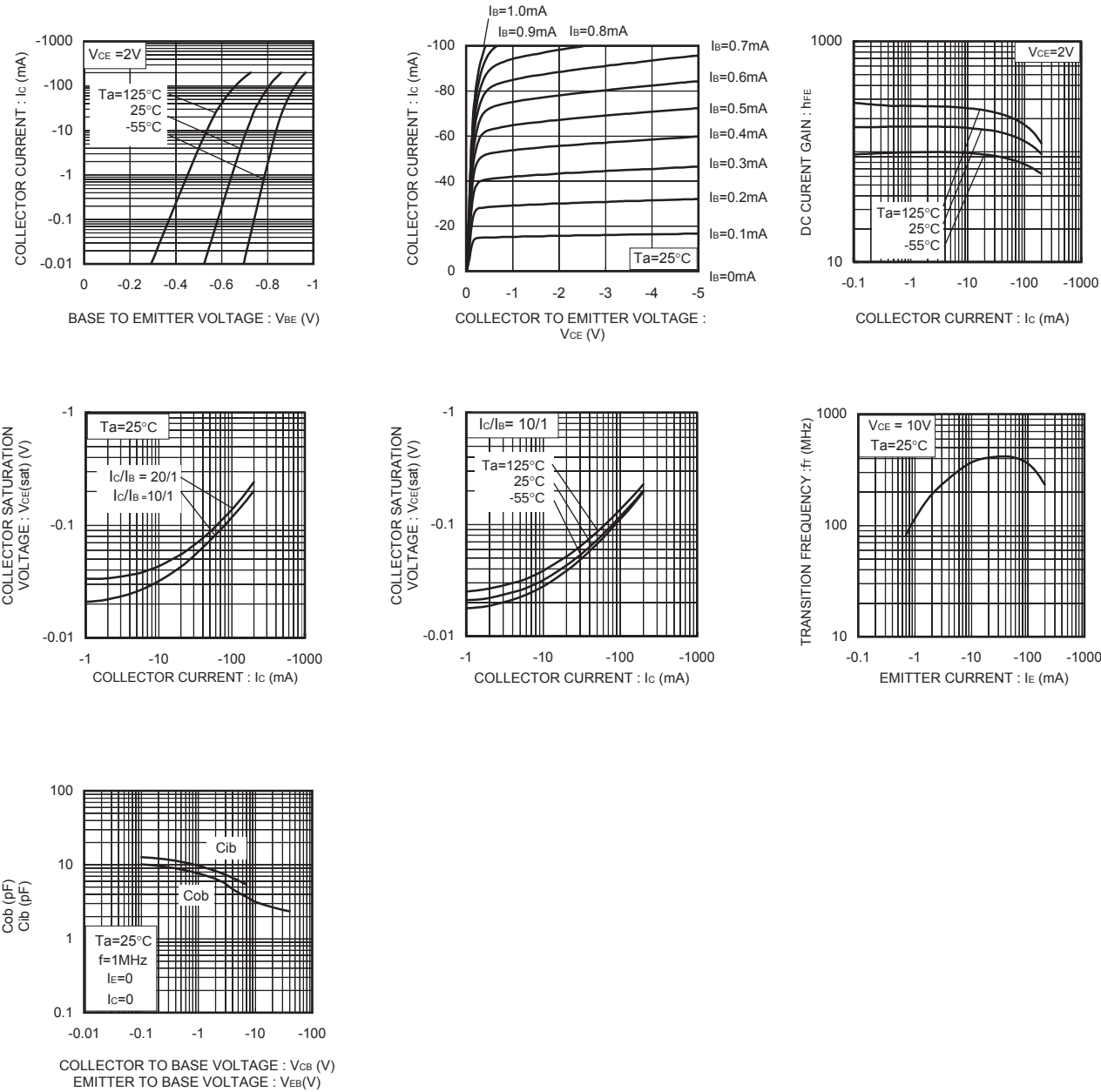
- Inner circuit



●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV_{CEO}	-20	-	-	V	$I_C = -1mA$
Collector-base breakdown voltage	BV_{CBO}	-20	-	-	V	$I_C = -50\mu A$
Emitter-base breakdown voltage	BV_{EBO}	-5	-	-	V	$I_E = -50\mu A$
Collector cut-off current	I_{CBO}	-	-	-0.1	μA	$V_{CB} = -20V$
Emitter cut-off current	I_{EBO}	-	-	-0.1	μA	$V_{EB} = -5V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	-	-0.12	-0.30	V	$I_C = -100mA, I_B = -10mA$
DC current gain	h_{FE}	120	-	560	-	$V_{CE} = -2V, I_C = -1mA$
Transition frequency	f_T	-	350	-	MHz	$V_{CE} = -10V, I_E = 10mA, f = 100MHz$
Output capacitance	C_{ob}	-	3	-	pF	$V_{CB} = -10V, I_E = 0A, f = 1MHz$

●Electrical characteristics curves



Notes

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