

# XP04506 (XP4506)

Silicon NPN epitaxial planer transistor

For amplification of low frequency output

### ■ Features

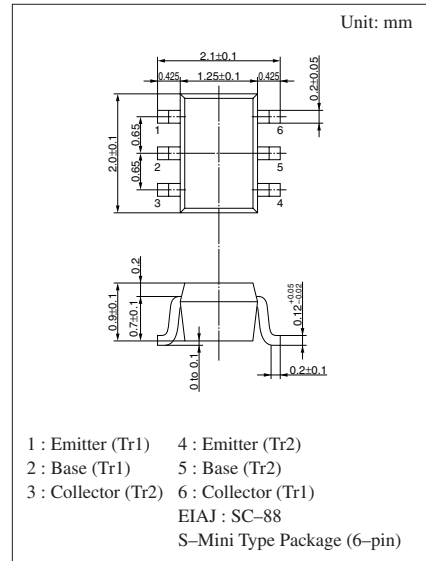
- High emitter to base voltage  $V_{EBO}$ .
- High forward current transfer ratio  $h_{FE}$ .
- Low ON resistor  $R_{on}$ .

### ■ Basic Part Number of Element

- 2SD1915F × 2 elements

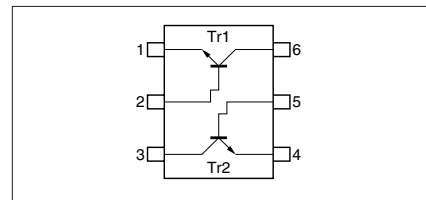
### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Ratings	Unit	
Rating of element	Collector to base voltage	$V_{CBO}$	50	V
	Collector to emitter voltage	$V_{CEO}$	20	V
	Emitter to base voltage	$V_{EBO}$	25	V
	Collector current	$I_C$	300	mA
	Peak collector current	$I_{CP}$	500	mA
Overall	Total power dissipation	$P_T$	150	mW
	Junction temperature	$T_j$	150	°C
	Storage temperature	$T_{stg}$	-55 to +150	°C



Marking Symbol: EN

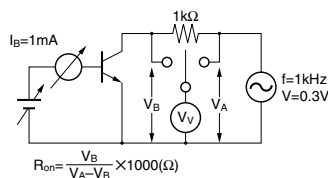
Internal Connection



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

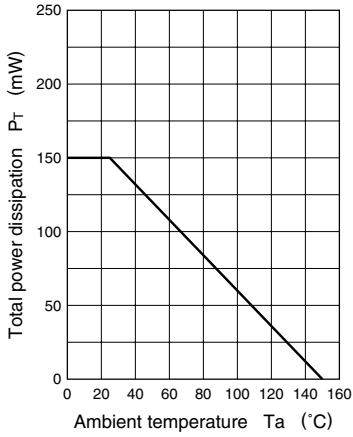
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	$V_{CEO}$	$I_C = 1mA, I_B = 0$	20			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50V, I_E = 0$			0.1	$\mu A$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 25V, I_C = 0$			0.1	$\mu A$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 2V, I_C = 4mA$	500		2500	
Base to emitter voltage	$V_{BE}$	$V_{CE} = 2V, I_C = 4mA$		0.6		V
Collector to emitter saturation voltage	$V_{CE(sat)}$	$I_C = 30mA, I_B = 3mA$			0.1	V
Transition frequency	$f_T$	$V_{CB} = 6V, I_E = -4mA, f = 200MHz$		80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10V, I_E = 0, f = 1MHz$			7	pF
ON Resistance	$R_{on}^{*1}$			1		$\Omega$

\*1  $R_{on}$  measuring circuit

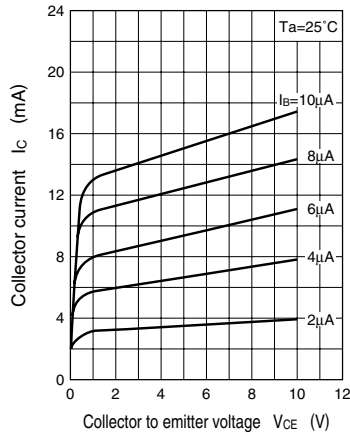


Note.) The Part number in the Parenthesis shows conventional part number.

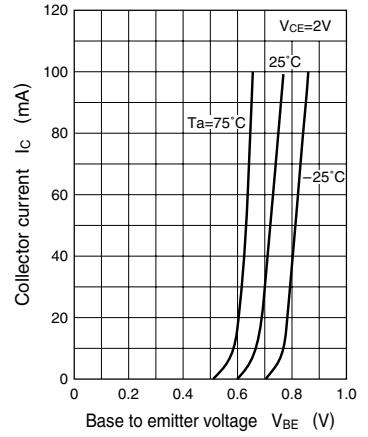
$P_T - T_a$



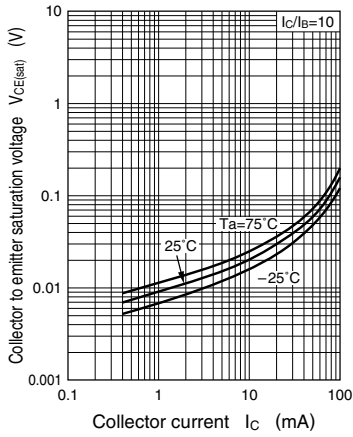
$I_C - V_{CE}$



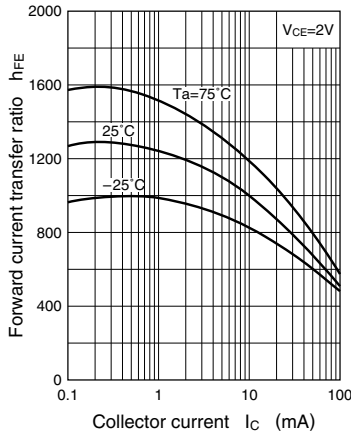
$I_C - V_{BE}$



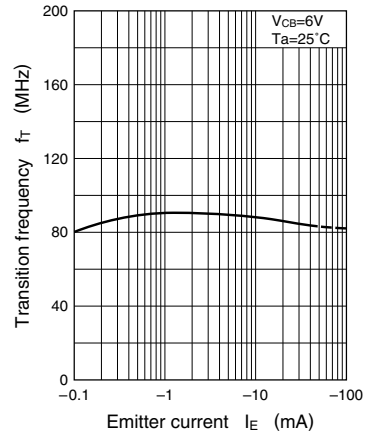
$V_{CE(sat)} - I_C$



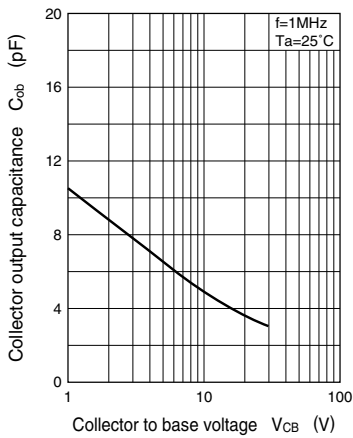
$h_{FE} - I_C$



$f_T - I_E$



$C_{ob} - V_{CB}$



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