

# XN01504 (XN1504)

## Silicon NPN epitaxial planer transistor

For amplification of low frequency output

### Features

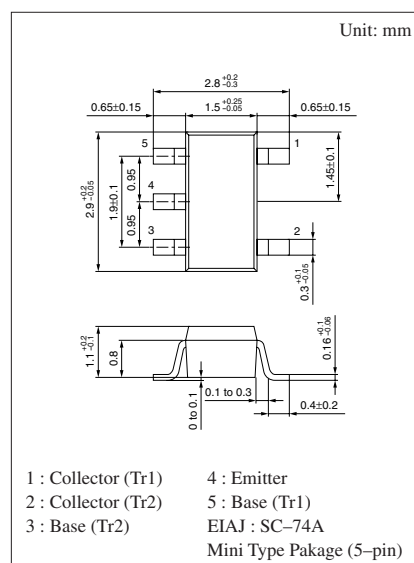
- Two elements incorporated into one package.  
(Emitter-coupled transistors)
- Reduction of the mounting area and assembly cost by one half.

### Basic Part Number of Element

- 2SD1915F × 2 elements

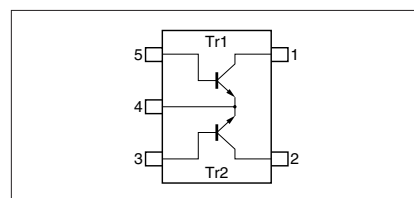
### Absolute Maximum Ratings (Ta=25°C)

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	$P_T$	300 mW
	Junction temperature	$T_j$	150 °C
	Storage temperature	$T_{stg}$	-55 to +150 °C



Marking Symbol: 5S

Internal Connection

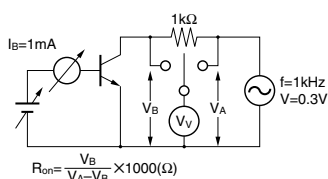


### Electrical Characteristics (Ta=25°C)

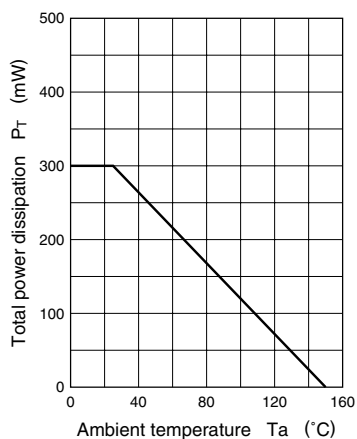
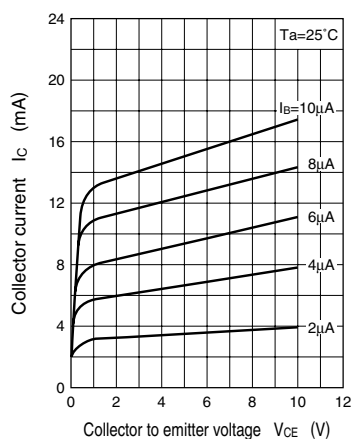
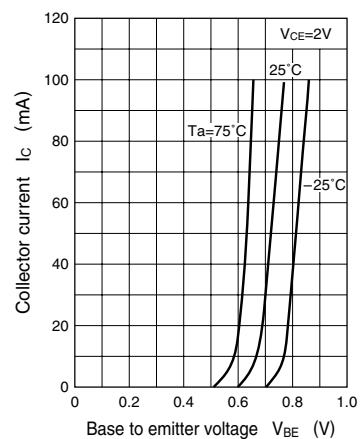
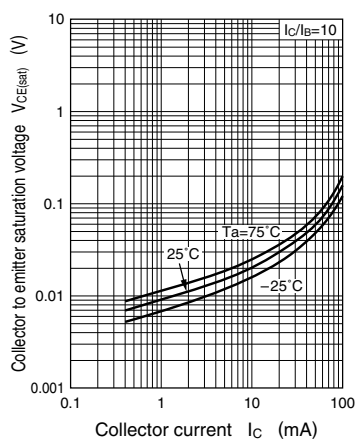
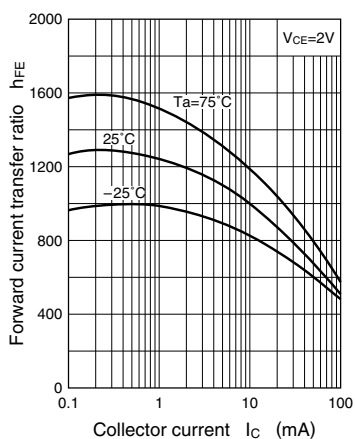
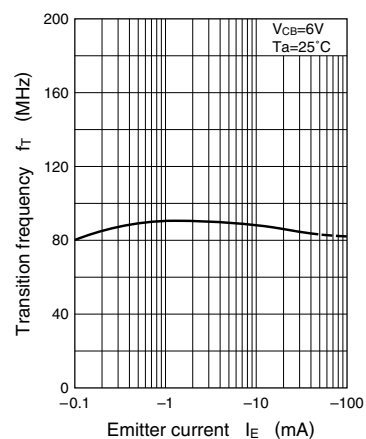
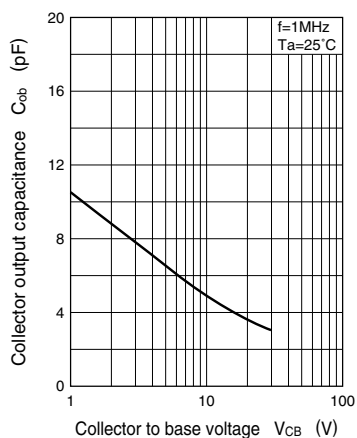
Parameter	Symbol	Conditions	min	typ	max	Unit
Collector to emitter voltage	$V_{CEO}$	$I_C = 1\text{mA}$ , $I_B = 0$	20			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50\text{V}$ , $I_E = 0$			0.1	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 25\text{V}$ , $I_C = 0$			0.1	$\mu\text{A}$
Forward current transfer ratio	$h_{FE}$	$V_{CE} = 2\text{V}$ , $I_C = 4\text{mA}$	500		2500	
Forward current transfer $h_{FE}$ ratio	$h_{FE}(\text{small/large})^{*1}$	$V_{CE} = 2\text{V}$ , $I_C = 4\text{mA}$	0.5	0.99		
Collector to emitter saturation voltage	$V_{CE(\text{sat})}$	$I_C = 30\text{mA}$ , $I_B = 3\text{mA}$			0.1	V
Base to emitter voltage	$V_{BE}$	$V_{CE} = 2\text{V}$ , $I_C = 4\text{mA}$		0.6		V
Transition frequency	$f_T$	$V_{CB} = 6\text{V}$ , $I_E = -4\text{mA}$ , $f = 200\text{MHz}$		80		MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$			7	pF
ON Resistance	$R_{on}^{*2}$			1.0		$\Omega$

\*1 Ratio between 2 elements

\*2  $R_{on}$  test 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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