

# NPN small signal transistor

## SSTA13

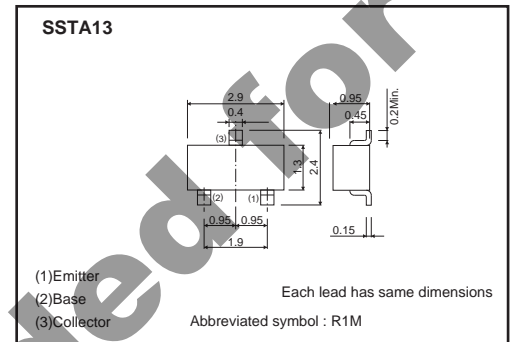
### ●Features

(1) High Current Gain.

### ●Packaging specifications

Type	Package	Taping
	Code	T116
	Basic ordering unit (pieces)	3000
SSTA13		○

### ●Dimensions (Unit : mm)



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	30	V
Collector-emitter voltage	V <sub>CES</sub>	30	V
Emitter-base voltage	V <sub>EBO</sub>	10	V
Collector current	I <sub>c</sub>	0.3	A
Collector power dissipation	P <sub>c</sub>	0.2	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to 125	°C

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV <sub>CES</sub>	30	-	-	V	I <sub>c</sub> = 100μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	30	-	-	V	I <sub>c</sub> = 10μA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	10	-	-	V	I <sub>E</sub> = 10μA
Collector-base cutoff current	I <sub>cBO</sub>	-	-	0.1	μA	V <sub>CB</sub> = 30V
Emitter-base cutoff current	I <sub>EBO</sub>	-	-	0.1	μA	V <sub>EB</sub> = 10V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	1.5	V	I <sub>c</sub> /I <sub>b</sub> = 100mA/ 0.1mA
Base-emitter voltage	V <sub>BE(on)</sub>	-	-	2.0	V	V <sub>CE</sub> = 5V, I <sub>c</sub> = 100mA *
DC current transfer ratio	h <sub>FE</sub>	5000	-	-	-	V <sub>CE</sub> = 5V, I <sub>c</sub> = 10mA
		10000	-	-		V <sub>CE</sub> = 5V, I <sub>c</sub> = 100mA *
Transition frequency	f <sub>T</sub>	125	-	-	MHz	V <sub>CE</sub> = 5V, I <sub>E</sub> = 10mA, f=100MHz
Collector output capacitance	C <sub>ob</sub>	-	5.4	-	pF	V <sub>CB</sub> = 10V, f=100kHz, I <sub>E</sub> =0

\* Pulsed

●Electrical characteristics curves

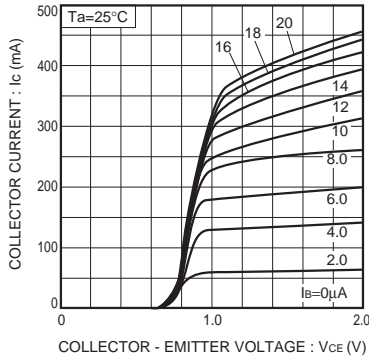


Fig.1 Typical output characteristics ( I )

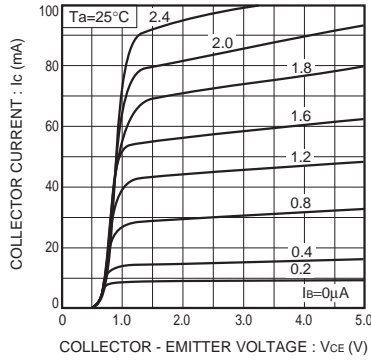


Fig.2 Typical output characteristics ( II )

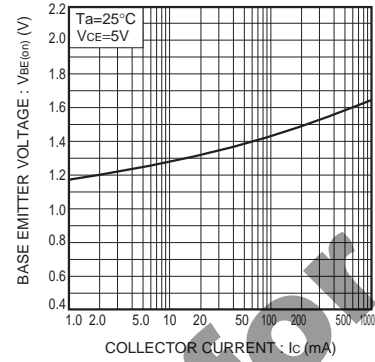


Fig.3 Base emitter 'ON' voltage vs. collector current

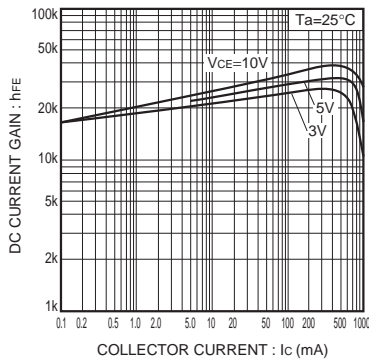


Fig.4 DC current gain vs. collector current ( I )

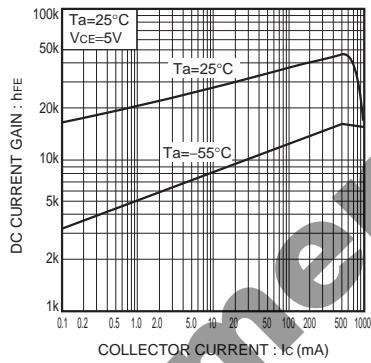


Fig.5 DC current gain vs. collector current ( II )

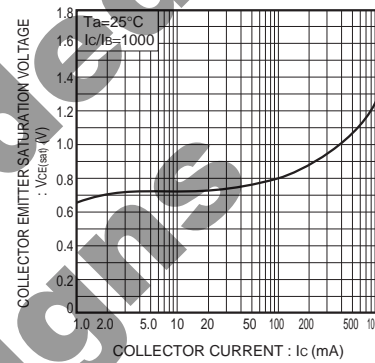


Fig.6 Collector emitter saturation voltage vs. collector current

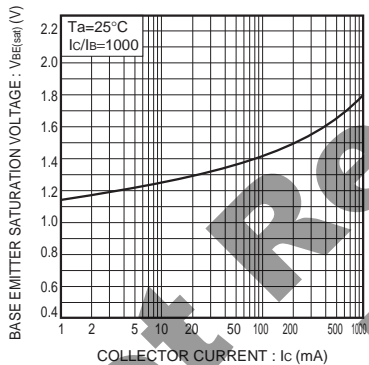


Fig.7 Base emitter saturation voltage vs. collector current

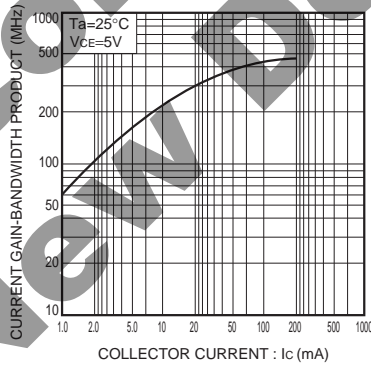


Fig.8 Current gain-bandwidth product vs. collector current

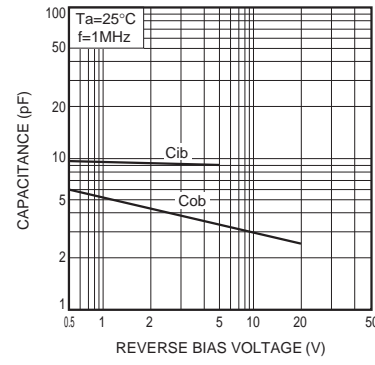


Fig.9 Capacitance vs. reverse bias voltage

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