

# SS9011

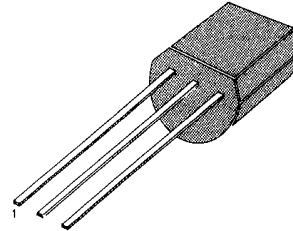
# NPN EPITAXIAL SILICON TRANSISTOR

**AM CONVERTER, AM/FM IF AMPLIFIER  
GENERAL PURPOSE TRANSISTOR**

### ABSOLUTE MAXIMUM RATINGS (T<sub>A</sub>=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CBO</sub>	50	V
Collector-Emitter Voltage	V <sub>CEO</sub>	30	V
Emitter-Base Voltage	V <sub>EBO</sub>	5	V
Collector Current	I <sub>C</sub>	30	mA
Collector Dissipation	P <sub>C</sub>	400	mw
Junction Temperature	T <sub>J</sub>	150	°C
Storage Temperature	T <sub>STG</sub>	-55 ~ 150	°C

TO-92



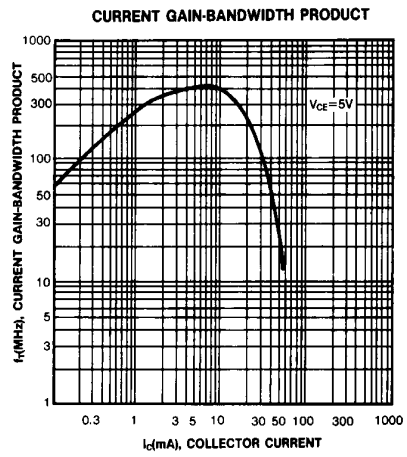
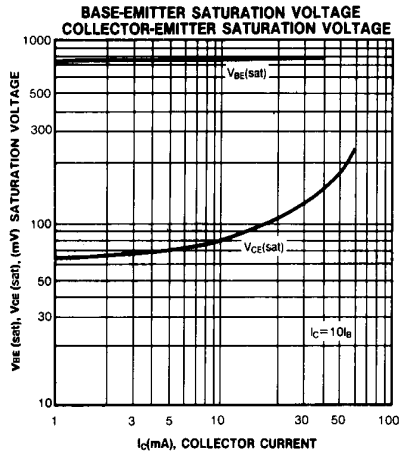
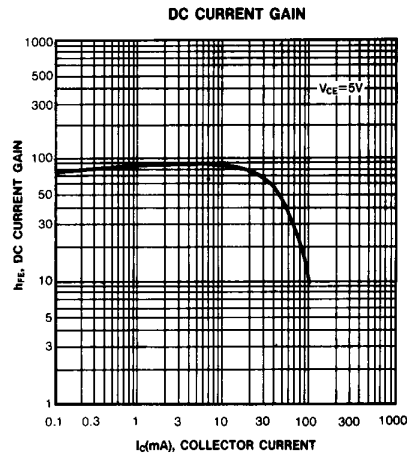
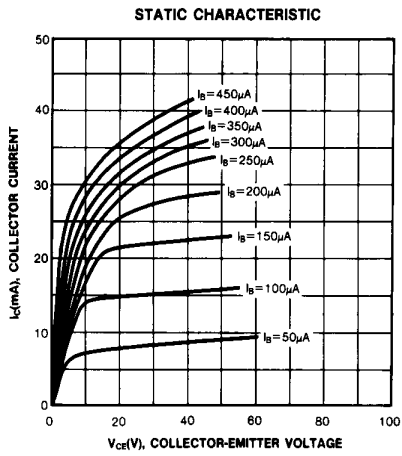
1. Emitter 2. Base 3. Collector

### ELECTRICAL CHARACTERISTICS (T<sub>A</sub>=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV <sub>CBO</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> = 0	50			V
Collector-Emitter Breakdown Voltage	BV <sub>CEO</sub>	I <sub>C</sub> = 1mA, I <sub>B</sub> = 0	30			V
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> = 0	5			V
Collector Cut-off Current	I <sub>CBO</sub>	V <sub>CB</sub> = 50V, I <sub>E</sub> = 0			100	nA
Emitter Cut-off Current	I <sub>EBO</sub>	V <sub>EB</sub> = 5V, I <sub>C</sub> = 0			100	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	28	90	198	
Collector-Emitter Saturation Voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1mA		0.08	0.3	V
Base-Emitter Voltage	V <sub>BE</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	0.65	0.7	0.75	V
Output Capacitance	C <sub>OB</sub>	V <sub>CB</sub> = 10V, I <sub>E</sub> = 0 f = 1MHz		1.5		pF
Current Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1mA	150	370		MHz
Noise Figure	NF	V <sub>CE</sub> = 5V, I <sub>C</sub> = 1.0 mA f = 1MHz, R <sub>S</sub> = 500Ω		2.0	4.0	dB

### h<sub>FE</sub> CLASSIFICATION

Classification	D	E	F	G	H	I
h <sub>FE</sub>	28-45	39-60	54-80	72-108	97-146	132-198



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