

SAMSUNG SEMICONDUCTOR INC.

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**MMBC1009F3**

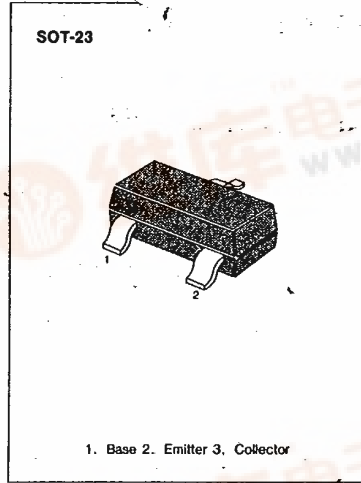
**NPN EPITAXIAL SILICON TRANSISTOR**

T-31-19

**AM/FM RF AMPLIFIER TRANSISTOR**

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	50	V
Collector-Emitter Voltage	V <sub>CE0</sub>	25	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current	I <sub>C</sub>	50	mA
Collector Dissipation	P <sub>C</sub>	350	mW
Storage Temperature	T <sub>stg</sub>	150	°C



**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> = 15V, I <sub>E</sub> = 0			100	nA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> = 3V, I <sub>C</sub> = 0.5mA	60		120	
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 10mA, I <sub>B</sub> = 1.0mA			0.3	V
Current Gain-Bandwidth Product	f <sub>T</sub>	I <sub>C</sub> = 1mA, V <sub>CE</sub> = 6V f = 100MHz	150			MHz
Output Capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 6V, I <sub>E</sub> = 0 f = 1MHz		2		pF
Noise Figure	NF	I <sub>C</sub> = 0.5mA, V <sub>CE</sub> = 6V f = 1MHz, R <sub>g</sub> = 500Ω		2.5		dB

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Marking

