

MMBC1009F1

NPN EPTAXIAL SILICON TRANSISTOR

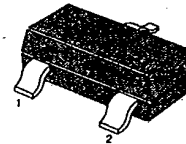
21-17

AM/FM RF AMPLIFIER TRANSISTOR

ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	50	V
Collector-Emitter Voltage	$V_{CE0}$	25	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Collector Current	$I_C$	50	mA
Collector Dissipation	$P_C$	350	mW
Storage Temperature	$T_{stg}$	150	$^\circ\text{C}$

SOT-23



1. Base 2. Emitter 3. Collector

ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 15\text{V}, I_E = 0$			100	nA
DC Current Gain	$h_{FE}$	$V_{CE} = 3\text{V}, I_C = 0.5\text{mA}$	30		60	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 10\text{mA}, I_B = 1.0\text{mA}$			0.3	V
Current Gain-Bandwidth Product	$f_T$	$I_C = 1\text{mA}, V_{CE} = 6\text{V}$ $f = 100\text{MHz}$	150			MHz
Output Capacitance	$C_{ob}$	$V_{CB} = 6\text{V}, I_E = 0$ $f = 1\text{MHz}$		2		pF
Noise Figure	NF	$I_C = 0.5\text{mA}, V_{CE} = 6\text{V}$ $f = 1\text{MHz}, R_g = 500\Omega$		2.5		dB

3

Marking

