

# SOT23 NPN SILICON PLANAR SMALL SIGNAL TRANSISTORS

## FMMT5209 FMMT5210

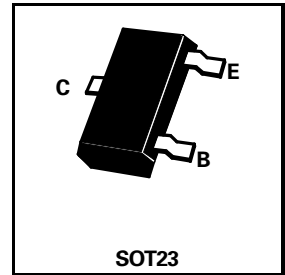
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PARTMARKING DETAILS:

FMMT5209 - 2Q

FMMT5210 - 2R



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FMMT5209	FMMT5210	UNIT
Collector-Base Voltage	$V_{CBO}$		50	V
Collector-Emitter Voltage	$V_{CEO}$		50	V
Emitter-Base Voltage	$V_{EBO}$		4.5	V
Continuous Collector Current	$I_C$		50	mA
Power Dissipation	$P_{tot}$		330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$		-55 TO +150	°C

### ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	FMMT5209		FMMT5210		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Cut-Off Current	$I_{CBO}$		50		50	nA	$V_{CB}=35\text{V}, I_E=0$
Emitter-Base Cut-Off Current	$I_{EBO}$		50		50	nA	$V_{EB}=3\text{V}, I_C=0$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		700		700	mV	$I_C=10\text{mA}, I_B=1\text{mA}$
Base-Emitter ON Voltage	$V_{BE(on)}$		850		850	mV	$I_C=1\text{mA}, V_{CE}=5\text{V}$
Static Forward Current Transfer Ratio	$h_{FE}$	100	300	200	600		$I_C=100\mu\text{A}, V_{CE}=5\text{V}$
		150		250			$I_C=1\text{mA}, V_{CE}=5\text{V}$
		150		250			$I_C=10\text{mA}, V_{CE}=5\text{V}^*$
Transition Frequency	$f_T$	30		30		MHz	$I_C=0.5\text{mA}, V_{CE}=5\text{V}, f=20\text{MHz}$
Small Signal Current Transfer Ratio	$h_{fe}$	150	600	250	900	MHz	$I_C=1\text{mA}, V_{CE}=5\text{V}, f=1\text{KHz}$
Noise Figure	N	3		2		dB	$I_C=200\mu\text{A}, V_{CE}=5\text{V}, R_g=2\text{K}\Omega, f=30\text{Hz to } 15\text{KHz at } -3\text{dB points}$
		4		3		dB	$I_C=200\mu\text{A}, V_{CE}=5\text{V}, R_g=2\text{K}\Omega, f=1\text{KHz to } \Delta f=200\text{Hz}$
Output Capacitance	$C_{obo}$		4		4	pF	$V_{CB}=5\text{V}, I_E=0, f=140\text{KHz}$