

SOT23 NPN SILICON PLANAR
SMALL SIGNAL TRANSISTORS

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FM5088
FM5089

PARTMARKING DETAIL— FM5088 - 1Q
FM5089 - 1R

COMPLEMENTARY TYPES — FM5088 - FM5087
FM5089 - None Available

ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FM5088	FM5089	UNIT
Collector-Base Voltage	V_{CBO}	35	30	V
Collector-Emitter Voltage	V_{CEO}	30	25	V
Emitter-Base Voltage	V_{EBO}	4.5	4.5	V
Continuous Collector Current	I_C	50	50	mA
Power Dissipation at $T_{amb}=25^{\circ}\text{C}$	P_{Tot}	330	330	mW
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150		$^{\circ}\text{C}$

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

PARAMETER	SYMBOL	FM5088		FM5089		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35		25		V	$I_C=1\text{mA}, I_B=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		30		V	$I_C=100\mu\text{A}, I_E=0^*$
Collector-Base Cut-Off Current	I_{CBO}		50			nA	$V_{CB}=20\text{V}, I_E=0$ $V_{CB}=15\text{V}, I_E=0$
Emitter-Base Current	I_{EBO}		50		100	nA	$V_{EB(off)}=3\text{V}, I_C=0$ $V_{EB(off)}=4.5\text{V}, I_C=0$
Emitter Saturation Voltages	$V_{CE(sat)}$ $V_{BE(sat)}$		0.5 0.8		0.5 0.8	V V	$I_C=10\text{mA}, I_B=1\text{mA}$
Static Forward Current Transfer Ratio	h_{FE}	300 350 300	900	400 450 400	1200		$I_C=100\mu\text{A}, V_{CE}=5\text{V}$ $I_C=1\text{mA}, V_{CE}=5\text{V}$ $I_C=10\text{mA}, V_{CE}=5\text{V}$
Transition Frequency	f_T	50		50		MHz	$I_C=500\mu\text{A}, V_{CE}=5\text{V}$ $f=20\text{MHz}$
Output Capacitance	C_{obo}		4		4	pF	$V_{CB}=5\text{V}, f=1\text{MHz}, I_E=0$
Emitter-base Capacitance	C_{ebo}		10		10	pF	$V_{BE}=0.5\text{V}, f=1\text{MHz}, I_C=0$
Noise Figure	N		3		2	dB	$I_C=200\text{mA}, V_{CE}=5\text{V},$ $R_g=10\text{K}\Omega, f=10\text{Hz to } 15\text{KHz}$
Small Signal Current Transfer Ratio	h_{fe}	350	1400	450	1800		$I_C=1\text{mA}, V_{CE}=5\text{V}$ $f=1\text{KHz} \quad ++$

*Measured under pulsed conditions. Pulse width=300 μs , Duty cycle $\leq 2\%$ ++ Periodic Sample test Only
Spice parameter data is available upon request for this device

