

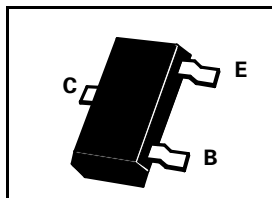
# SOT23 NPN SILICON PLANAR SMALL SIGNAL TRANSISTORS

## FMMT5088 FMMT5089

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PARTMARKING DETAIL— FMMT5088 - 1Q  
FMMT5089 - 1R

COMPLEMENTARY TYPES — FMMT5088 - FMMT5087  
FMMT5089 - None Available



### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FMMT5088	FMMT5089	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 $T_{amb}=25^{\circ}C$	$P_{tot}$	330	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150		$^{\circ}C$

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

PARAMETER	SYMBOL	FMMT5088		FMMT5089		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	35		25		V	$I_C=1mA, I_B=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		30		V	$I_C=100\mu A, I_E=0^*$
Collector-Base Cut-Off Current	$I_{CBO}$		50		50	nA nA	$V_{CB}=20V, I_E=0$ $V_{CB}=15V, I_E=0$
Emitter-Base Current	$I_{EBO}$		50		100	nA nA	$V_{EB(off)}=3V, I_C=0$ $V_{EB(off)}=4.5V, I_C=0$
Emitter Saturation Voltages	$V_{CE(sat)}$		0.5		0.5	V	$I_C=10mA, I_B=1mA$
	$V_{BE(sat)}$		0.8		0.8	V	
Static Forward Current Transfer Ratio	$h_{FE}$	300 350 300	900	400 450 400	1200		$I_C=100\mu A, V_{CE}=5V$ $I_C=1mA, V_{CE}=5V$ $I_C=10mA, V_{CE}=5V$
Transition Frequency	$f_T$	50		50		MHz	$I_C=500\mu A, V_{CE}=5V$ $f=20MHz$
Output Capacitance	$C_{obo}$		4		4	pF	$V_{CB}=5V, f=1MHz, I_E=0$
Emitter-base Capacitance	$C_{ebo}$		10		10	pF	$V_{BE}=0.5V, f=1MHz,$ $I_C=0$
Noise Figure	N		3		2	dB	$I_C=200mA, V_{CE}=5V,$ $R_o=10K\Omega, f=10Hz$ to 15KHz
Small Signal Current Transfer Ratio	$h_{fe}$	350	1400	450	1800		$I_C=1mA, V_{CE}=5V$ $f=1KHz$ ++

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