# SOT23 PNP SILICON PLANAR SWITCHING TRANSISTORS

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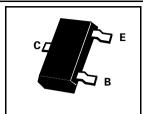
FMMT3905 FMMT3906

PARTMARKING DETAILS - FMMT3905 - 2W

FMMT3906 - 2A

COMPLEMENTARY TYPES - FMMT3905 - FMMT3903

FMMT3906 - FMMT3904



#### ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	V <sub>CBO</sub>	-40	V
CollectorEmitter Voltage	V <sub>CEO</sub>	-40	V
Emitter-Base Voltage	V <sub>EBO</sub>	-5	V
Continuous Collector Current	I <sub>C</sub>	-200	mA
Power Dissipation at T <sub>amb</sub> =25°C	P <sub>tot</sub>	330	mW
Operating and Storage Temperature Range	T <sub>j</sub> :T <sub>stg</sub>	-55 to +150	°C

#### ELECTRICAL CHARACTERISTICS (at T<sub>amb</sub> = 25°C unless otherwise stated).

PARAMETER	RAMETER SYMBOL FMMT3905 FMMT3906		3906.	UNIT	CONDITIONS.		
		MIN	MAX	MIN	MAX		
BreakdownVoltages	V <sub>(BR)CBO</sub>	-40		-40		V	I <sub>C</sub> =-10μA, I <sub>E</sub> =0
	V <sub>(BR)CEO</sub>	-40		-40		V	I <sub>C</sub> =-1mA, I <sub>B</sub> =0*
	$V_{(BR)EBO}$	-5		-5		V	$I_{E}$ =-10 $\mu$ A, $I_{C}$ =0
Cut-Off Currents	I <sub>CEX</sub>		-50		-50	nA	V <sub>CE</sub> =-30V, V <sub>BE(off)</sub> =-3V
	I <sub>BEX</sub>		-50		-50	nA	V <sub>CE</sub> =-30V, V <sub>EB(off)</sub> =-3V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	30 40 50 30 15	150	60 80 100 60 30	300		I <sub>C</sub> =-0.1mA, V <sub>CE</sub> =-1V* I <sub>C</sub> =-1mA, V <sub>CE</sub> =-1V* I <sub>C</sub> =-10mA, V <sub>CE</sub> =-1V* I <sub>C</sub> =-50mA, V <sub>CE</sub> =-1V* I <sub>C</sub> =-100mA, V <sub>CE</sub> =-1V*
Saturation Voltages	V <sub>CE(sat)</sub>		-0.25 -0.4		0.25 0.4	<b>&gt; &gt;</b>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA* I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA*
	V <sub>BE(sat)</sub>	-0.65	-0.85 -0.95	-0.65	-0.85 -0.95	<b>&gt;</b>	I <sub>C</sub> =-10mA, I <sub>B</sub> =-1mA* I <sub>C</sub> =-50mA, I <sub>B</sub> =-5mA*
Transition Frequency	f <sub>T</sub>	200		250		MHz	I <sub>C</sub> =-10mA, V <sub>CE</sub> =-20V f=100MHz
Output Capacitance	C <sub>obo</sub>		4.5		4.5	pF	V <sub>CB</sub> =-5V, I <sub>E</sub> =0, f=100KHz
Input Capacitance	C <sub>ibo</sub>		10		10	pF	V <sub>BE</sub> =0.5V, I <sub>C</sub> =0, f=100KHz
Noise Figure	N		5		4	dB	$I_{C}$ =-200mA, $V_{CE}$ =-5V Rg=2k $\Omega$ , f=30Hz to 15kHz at -3dB points

<sup>\*</sup>Measured under pulsed conditions. Pulse width=200µs. Duty cycle =1%

## FMMT3905 FMMT3906

### SWITCHING CHARACTERISTICS (at Tamb=25 °C unless otherwise stated)

PARAMETER	SYMBOL	FMMT3905		FMMT3906		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX		
Delay Time	t <sub>d</sub>		35		35	ns	$V_{CC}$ =-3V, $V_{BE(off)}$ -0.5V $I_{C}$ =-10mA, $I_{B1}$ =-1mA (See Fig.1)
Rise Time	t <sub>r</sub>		35		35	ns	
Storage Time	t <sub>s</sub>		200		225	ns	V <sub>CC</sub> =-3V, I <sub>C</sub> =-10mA I <sub>B1</sub> =-I <sub>B2</sub> =-1mA (See Fig.2)
Fall Time	t <sub>f</sub>		60		75	ns	

