



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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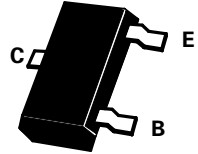
SOT23 PNP SILICON PLANAR SWITCHING TRANSISTORS

ISSUE 4 – MARCH 2000

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_{CBO}	-40	V
Collector-Emitter Voltage	V_{CEO}	-40	V
Emitter-Base Voltage	V_{EBO}	-5	V
Continuous Collector Current	I_C	-200	mA
Power Dissipation at $T_{amb}=25^{\circ}C$	P_{tot}	330	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^{\circ}C$

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

PARAMETER	SYMBOL	FMMT3905		FMMT3906.		UNIT	CONDITIONS.
		MIN	MAX	MIN	MAX		
Breakdown Voltages	$V_{(BR)CBO}$	-40		-40		V	$I_C = -10\mu A, I_E = 0$
	$V_{(BR)CEO}$	-40		-40		V	$I_C = -1mA, I_B = 0^*$
	$V_{(BR)EBO}$	-5		-5		V	$I_E = -10\mu A, I_C = 0$
Cut-Off Currents	I_{CEX}		-50		-50	nA	$V_{CE} = -30V, V_{BE(off)} = -3V$
	I_{BEX}		-50		-50	nA	$V_{CE} = -30V, V_{EB(off)} = -3V$
Static Forward Current Transfer Ratio	h_{FE}	30 40 50 30 15	150	60 80 100 60 30	300		$I_C = -0.1mA, V_{CE} = -1V^*$ $I_C = -1mA, V_{CE} = -1V^*$ $I_C = -10mA, V_{CE} = -1V^*$ $I_C = -50mA, V_{CE} = -1V^*$ $I_C = -100mA, V_{CE} = -1V^*$
Saturation Voltages	$V_{CE(sat)}$		-0.25 -0.4		0.25 0.4	V V	$I_C = -10mA, I_B = -1mA^*$ $I_C = -50mA, I_B = -5mA^*$
	$V_{BE(sat)}$	-0.65	-0.85 -0.95	-0.65	-0.85 -0.95	V V	$I_C = -10mA, I_B = -1mA^*$ $I_C = -50mA, I_B = -5mA^*$
Transition Frequency	f_T	200		250		MHz	$I_C = -10mA, V_{CE} = -20V$ $f = 100MHz$
Output Capacitance	C_{obo}		4.5		4.5	pF	$V_{CB} = -5V, I_E = 0, f = 100KHz$
Input Capacitance	C_{ibo}		10		10	pF	$V_{BE} = 0.5V, I_C = 0, f = 100KHz$
Noise Figure	N		5		4	dB	$I_C = -200mA, V_{CE} = -5V$ $R_g = 2k\Omega, f = 30Hz$ to $15kHz$ at -3dB points

*Measured under pulsed conditions. Pulse width=200 μs . Duty cycle =1%

FMMT3905

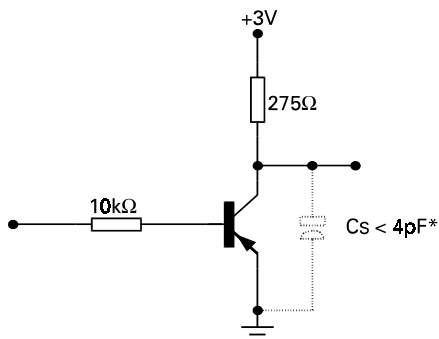
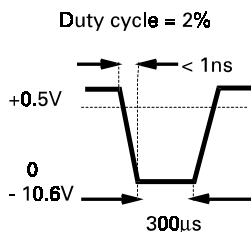
FMMT3906

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

PARAMETER	SYMBOL	FMMT3905		FMMT3906		UNIT	CONDITIONS
		MIN	MAX	MIN	MAX		
Delay Time	t_d		35		35	ns	$V_{CC}=-3V$, $V_{BE(off)}=-0.5V$ $I_C=-10mA$, $I_{B1}=-1mA$ (See Fig.1)
Rise Time	t_r		35		35	ns	
Storage Time	t_s		200		225	ns	$V_{CC}=-3V$, $I_C=-10mA$ $I_{B1}=-I_{B2}=-1mA$ (See Fig.2)
Fall Time	t_f		60		75	ns	

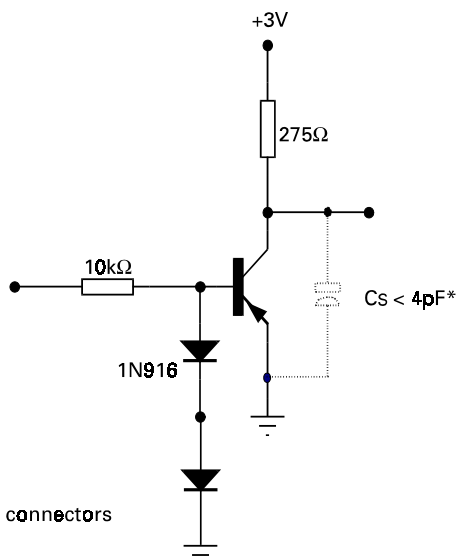
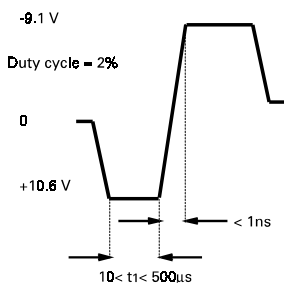
Delay and Rise Time

Equivalent Test Circuit



Storage and Fall Time

Equivalent Test Circuit



* Total shunt capacitance of test jig and connectors