

SOT23 PNP SILICON PLANAR SWITCHING TRANSISTOR

FMMT2907
FMMT2907A

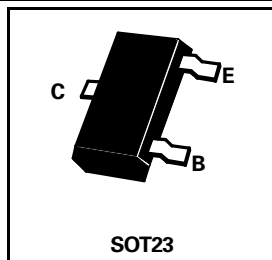
ISSUE 3 – FEBRUARY 1996

FEATURES

* Fast switching

COMPLIMENTARY TYPES - FMMT2907 – FMMT2222
- FMMT2907A – FMMT2222A

PARTMARKING DETAIL - FMMT2907 – 2BZ
FMMT2907A – 2F
FMMT2907R – 4P
FMMT2907AR – 5P



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FMMT2907	FMMT2907A	UNIT
Collector-Base Voltage	V_{CBO}	-60		V
Collector-Emitter Voltage	V_{CEO}	-40	-60	V
Emitter-Base Voltage	V_{EBO}	-5		V
Continuous Collector Current	I_C	-600		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	FMMT2907		FMMT2907A		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-40		-60		V	$I_C = -10\mu A, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60		-60		V	$I_C = -10mA, I_B = 0^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5		-5		V	$I_E = -10\mu A, I_C = 0$
Collector-Emitter Cut-Off Current	I_{CEX}		-50		-50	nA	$V_{CE} = -30V, V_{BE} = -0.5V$
Collector Cut-Off Current	I_{CBO}		-20 -20		-10 -10	nA μA	$V_{CB} = -50V, I_E = 0$ $V_{CB} = -50V, I_E = 0, T_{amb} = 150^{\circ}C$
Base Cut-Off Current	I_B		-50		-50	nA	$V_{CE} = -30V, V_{BE} = -0.5V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		-0.4 -1.6		-0.4 -1.6	V V	$I_C = -150mA, I_B = -15mA^*$ $I_C = -500mA, I_B = -50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$		-1.3 -2.6		-1.3 -2.6	V V	$I_C = -150mA, I_B = -15mA^*$ $I_C = -500mA, I_B = -50mA^*$
Static Forward Current Transfer Ratio	h_{FE}	35 50 75 100 30	300	75 100 100 100 50	300		$I_C = 0.1mA, V_{CE} = -10V$ $I_C = 1mA, V_{CE} = -10V$ $I_C = 10mA, V_{CE} = -10V$ $I_C = 150mA, V_{CE} = -10V^*$ $I_C = 500mA, V_{CE} = -10V^*$
Transition Frequency	f_T	200		200		MHz	$I_C = 50mA, V_{CE} = -20V$ $f = 100MHz$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$

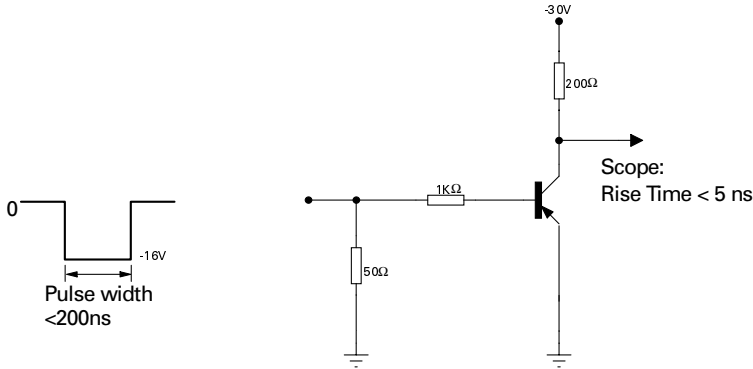
FMMT2907

FMMT2907A

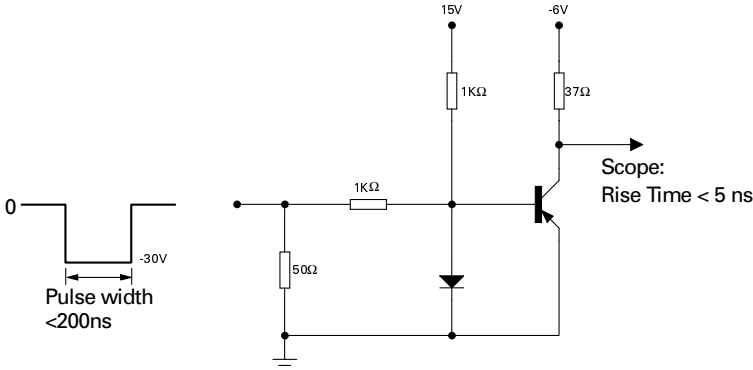
SWITCHING CHARACTERISTICS (at $T_{amb} = 25^{\circ}\text{C}$ unless otherwise stated).

PARAMETER	SYMBOL	FMMT2907		FMMT2907A		UNIT	CONDITIONS.
		TYP.	MAX.	TYP.	MAX.		
Output Capacitance	C_{obo}		8		8	pF	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 100\text{KHz}$
Input Capacitance	C_{ibo}		30		30	pF	$V_{BE} = -2\text{V}$, $I_C = 0$ $f = 100\text{KHz}$
Turn On Time	t_{on}	26	50	26	50	ns	$V_{CE} = -30\text{V}$ $I_C = 150\text{mA}$, $I_{B1} = -15\text{mA}$ (See Turn On Circuit)
Turn Off Time	t_{off}	70	110	70	110	ns	$V_{CE} = -6\text{V}$, $I_C = 150\text{mA}$ $I_{B1} = I_{B2} = -15\text{mA}$ (See Turn Off Circuit)

TURN ON TIME – TEST CIRCUIT



TURN OFF TIME – TEST CIRCUIT



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