

# SOT23 PNP SILICON PLANAR SWITCHING TRANSISTOR

**FMMT2907**  
**FMMT2907A**

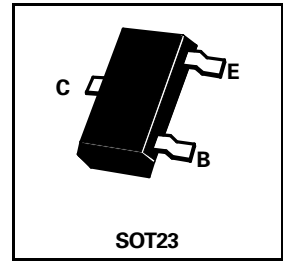
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## FEATURES

\* 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 $\mu A$	$V_{CB} = -50V, I_E = 0$ $V_{CB} = -50V, I_E = 0, T_{amb} = 150^{\circ}C$
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	$I_C = 50mA, V_{CE} = 20V$ $f = 100MHz$

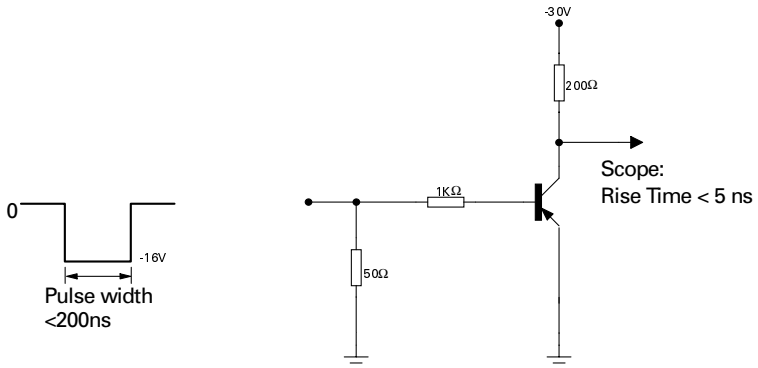
\*Measured under pulsed conditions. Pulse width=300 $\mu s$ . Duty cycle  $\leq 2\%$

# 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	$V_{CE} = -10\text{V}$ , $I_E = 0$ , $f = 100\text{KHz}$
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

