



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 NPN SILICON PLANAR SWITCHING TRANSISTORS

FMMT2222
FMMT2222A

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FEATURES

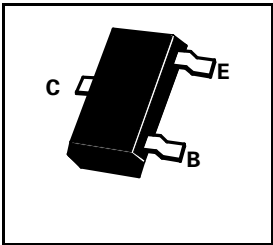
* Fast switching

PARTMARKING DETAILS

FMMT2222 – 1BZ FMMT2222A – 1P
FMMT2222R – 2P FMMT2222AR – 3P

COMPLEMENTARY TYPES

FMMT2222 – FMMT2907
FMMT2222A – FMMT2907A



ABSOLUTE MAXIMUM RATINGS.

PARAMETER	SYMBOL	FMMT2222	FMMT2222A	UNIT
Collector-Base Voltage	V_{CBO}	60	75	V
Collector-Emitter Voltage	V_{CEO}	30	40	V
Emitter-Base Voltage	V_{EBO}	5	6	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	FMMT2222		FMMT2222A		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	60		75		V	$I_C=10\mu A, I_E=0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	30		40		V	$I_C=10mA, I_B=0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5		6		V	$I_E=10\mu A, I_C=0$
Collector Cut-Off Current	I_{CBO}		10		10	nA	$V_{CB}=50V, I_E=0$
			10		10	μA	$V_{CB}=60V, I_E=0$
					10	nA	$V_{CB}=50V, I_E=0, T_{amb}=150^{\circ}C$
					10	μA	$V_{CB}=60V, I_E=0, T_{amb}=150^{\circ}C$
Emitter Cut-Off Current	I_{EBO}		10		10	nA	$V_{EB}=3V, I_C=0$
Collector-Emitter Cut-Off Current	I_{CEX}		10		10	nA	$V_{CE}=60V, V_{EB(off)}=3V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$		0.3		0.3	V	$I_C=150mA, I_B=15mA^*$
			1.0		1.0	V	$I_C=500mA, I_B=50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	0.6	2.0	0.6	1.2	V	$I_C=150mA, I_B=15mA^*$
			2.6		2.0	V	$I_C=500mA, I_B=50mA^*$
Static Forward Current Transfer Ratio	h_{FE}	35		35			$I_C=0.1mA, V_{CE}=10V^*$
		50		50			$I_C=1mA, V_{CE}=10V$
		75		75			$I_C=10mA, V_{CE}=10V^*$
		35		35			$I_C=10mA, V_{CE}=10V, T_{amb}=-55^{\circ}C$
		100	300	100	300		$I_C=150mA, V_{CE}=10V^*$
		50		50			$I_C=150mA, V_{CE}=1V^*$
		30		40			$I_C=500mA, V_{CE}=10V^*$

*Measured under pulsed conditions. Pulse width=300 μs . Duty cycle $\leq 2\%$
Spice parameter data is available upon request for this device

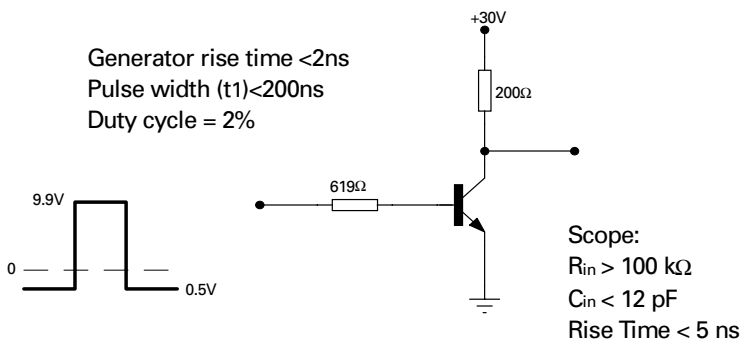
FMMT2222

FMMT2222A

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

PARAMETER	SYMBOL	FMMT2222		FMMT2222A		UNIT	CONDITIONS.
		MIN.	MAX.	MIN.	MAX.		
Transition Frequency	f_T	250		300		MHz	$I_C=20\text{mA}$, $V_{CE}=20\text{V}$ $f=100\text{MHz}$
Output Capacitance	C_{obo}		8		8	pF	$V_{CB}=10\text{V}$, $I_E=0$, $f=140\text{KHz}$
Input Capacitance	C_{ibo}		30		25	pF	$V_{EB}=0.5\text{V}$, $I_C=0$ $f=140\text{KHz}$
Delay Time	t_d		10		10	ns	$V_{CC}=30\text{V}$, $V_{BE(off)}=0.5\text{V}$ $I_C=150\text{mA}$, $I_{B1}=15\text{mA}$ (See Delay Test Circuit)
Rise Time	t_r		25		25	ns	
Storage Time	t_s		225		225	ns	$V_{CC}=30\text{V}$, $I_C=150\text{mA}$ $I_{B1}=I_{B2}=15\text{mA}$ (See Storage Test Circuit)
Fall Time	t_f		60		60	ns	

DELAY AND RISE – TEST CIRCUIT



STORAGE TIME AND FALL TIME – TEST CIRCUIT

