

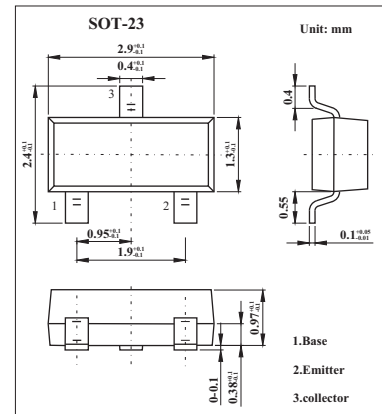
## NPN Silicon Power Transistor

### FMMT617TA

#### Features

Power Dissipation:  $P_{tot}=625mW$

Collector Current:  $I_c=3A$



#### Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	$V_{CB0}$	15	V
Collector-Emitter Voltage	$V_{CE0}$	15	V
Emitter-Base Voltage	$V_{EB0}$	5	V
Continuous Collector Current	$I_c$	3	A
Peak Pulse Current *1	$I_{CM}$	12	A
Power Dissipation at $T_{amb} = 25^\circ C$ *2	$P_{tot}$	625	mW
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	$^\circ C$

\*1. Measured under pulsed conditions. Pulse width=300ms. Duty cycle 2%

\*2. Maximum power dissipation is calculated assuming that the device is mounted on a ceramic substrate measuring 15x15x0.6mm

**FMMT617TA**

Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =100μA	15			V
Collector-Emitter Breakdown Voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =10mA*	15			V
Emitter-Base Breakdown Voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =100μA	5			V
Collector Cut-Off Current	I <sub>CBO</sub>	V <sub>CB</sub> =10V			100	nA
Emitter Cut-Off Current	I <sub>EBO</sub>	V <sub>EB</sub> =4V			100	nA
Collector Emitter Cut-Off Current	I <sub>CES</sub>	V <sub>CE</sub> =10V			100	nA
Collector-Emitter Saturation Voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =0.1A, I <sub>B</sub> =10mA*		8	14	mV
		I <sub>C</sub> =1A, I <sub>B</sub> =10mA*		70	100	mV
		I <sub>C</sub> =3A, I <sub>B</sub> =50mA*		150	200	mV
Base-Emitter Saturation Voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =3A, I <sub>B</sub> =50mA*		0.9	1.0	V
Base-Emitter Turn-On Voltage	V <sub>BE(om)</sub>	I <sub>C</sub> =3A, V <sub>CE</sub> =2V*		0.84	1.0	V
Static Forward Current Transfer Ratio	h <sub>FE</sub>	I <sub>C</sub> =10mA, V <sub>CE</sub> =2V*	200	415		
		I <sub>C</sub> =200mA, V <sub>CE</sub> =2V*	300	450		
		I <sub>C</sub> =3A, V <sub>CE</sub> =2V*	200	320		
		I <sub>C</sub> =5A, V <sub>CE</sub> =2V*	150	240		
		I <sub>C</sub> =12A, V <sub>CE</sub> =2V*		80		
Transition Frequency	f <sub>T</sub>	I <sub>C</sub> =50mA, V <sub>CE</sub> =10V, f=50MHz	80	120		MHz
Output Capacitance	C <sub>obo</sub>	V <sub>CB</sub> =10V, f=1MHz		30	40	pF
Turn-On Time	t <sub>(on)</sub>	V <sub>CC</sub> =10V, I <sub>C</sub> =3A		120		ns
Turn-Off Time	t <sub>(off)</sub>	I <sub>B1</sub> =I <sub>B2</sub> =50mA		160		ns

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