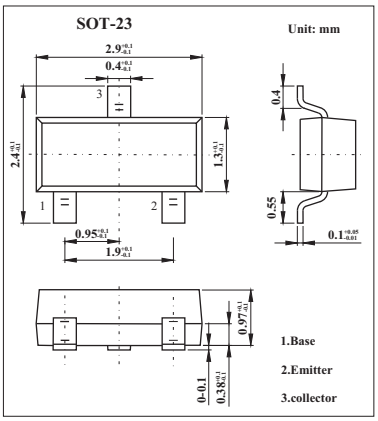
NPN Silicon Power Transistor

FMMT617TA



■ Features

- Power Dissipation: P_{tot}=625mW
- Collector Current: I_C=3A

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	15	V
Collector-Emitter Voltage	V_{CEO}	15	V
Emitter-Base Voltage	V_{EBO}	5	V
Continuous Collector Current	I_C	3	A
Peak Pulse Current *1	I_{CM}	12	A
Power Dissipation at Tamb =25℃*2	P_{tot}	625	mW
Operating and Storage Temperature Range	T_j:T_{stg}	-55 to +150	℃

*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

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■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=100μA	15			V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA*	15			V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=100μA	5			V
Collector Cut-Off Current	I_{CBO}	V_{CB}=10V			100	nA
Emitter Cut-Off Current	I_{EBO}	V_{EB}=4V			100	nA
Collector Emitter Cut-Off Current	I_{CES}	V_{CES}=10V			100	nA
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=0.1A, I_B=10mA*		8	14	mV
		I_C=1A, I_B=10mA*		70	100	mV
		I_C=3A, I_B=50mA*		150	200	mV
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=3A, I_B=50mA*		0.9	1.0	V
Base-Emitter Turn-On Voltage	$V_{BE(om)}$	I_C=3A, V_{CE}=2V*		0.84	1.0	V
Static Forward Current Transfer Ratio	h_{FE}	I_C=10mA, V_{CE}=2V*	200	415		
		I_C=200mA, V_{CE}=2V*	300	450		
		I_C=3A, V_{CE}=2V*	200	320		
		I_C=5A, V_{CE}=2V*	150	240		
		I_C=12A, V_{CE} =2V*		80		
Transition Frequency	f_T	I_C=50mA, V_{CE}=10V,f=50MHz	80	120		MHz
Output Capacitance	C_{obo}	V_{CB}=10V, f=1MHz		30	40	pF
Turn-On Time	$t_{(on)}$	V_{CC}=10V, I_C=3A		120		ns
Turn-Off Time	$t_{(off)}$	I_{B1}=I_{B2}=50mA		160		ns

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