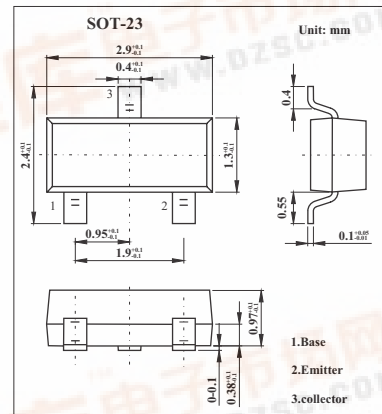


SMD Type Transistors

Silicon NPN High Voltage Switching Transistor
FMMT459

■ Features

- 6V reverse blocking capability
- Low saturation voltage - 90mV @ 50mA
- hFE > 50 @ 30 Ma
- Ic=150mA continuous



■ Absolute Maximum Ratings Ta = 25°C

Parameter	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	500	V
Collector-emitter voltage	V _{CEV}	500	V
Collector-emitter voltage	V _{CEO}	450	V
Emitter-base voltage	V _{EB0}	6	V
Emitter-collector voltage	V _{ECV}	6	V
Peak pulse current	I _{CM}	0.5	A
Continuous collector current * 1	I _C	0.15	A
Base current	I _B	0.2	A
Power dissipation @ TA=25°C* 1	P _D	625	mW
Linear derating factor		5	mW/°C
Power dissipation @ TA=25°C*2	P _D	806	mW
Linear derating factor		6.4	mW/°C
Operating and storage temperature range	T _j ;T _{stg}	-55 to +150	°C
?Junction to ambient *1	R _{θJA}	200	°C/W
Junction to ambient *2	R _{θJA}	155	°C/W

*1 For a device surface mounted on 25mm x 25mm FR4 PCB with high coverage of 1oz copper, in still air conditions

*2 as above measured at t<5secs.

FMMT459

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector-base breakdown voltage	BV _{CB0}	I _C =100μA	500	700		V
Collector-emitter breakdown voltage	BV _{CEV}	I _C =10μA, 0.3V > V _{BE} > -1V	500	700		V
Collector-emitter breakdown voltage *	BV _{CEO}	I _C =10mA	450	500		V
Emitter-base breakdown voltage	BV _{EBO}	I _E =100μA	6	8.1		V
Emitter-base breakdown voltage	BV _{ECV}	I _C =1μA, 0.3V > V _{BC} > -6V	6	8.1		V
Collector-emitter cut-off current	I _{CES}	V _{CE} =450V			100	nA
Collector-base cut-off current	I _{CBO}	V _{CB} =450V			100	nA
Emitter-base cut-off current	I _{EBO}	V _{EB} =5V			100	nA
Static forward current transfer ratio	h _{FE}	I _C =30mA, V _{CE} =10V	50	120		
		I _C =50mA, V _{CE} =10V *		70		
Collector-emitter saturation voltage *	V _{CE(sat)}	I _C =20mA, I _B =2mA		60	75	mV
		I _C =50mA, I _B =6mA		70	90	mV
Base-emitter saturation voltage *	V _{BE(sat)}	I _C =50mA, I _B =5mA		0.76	0.9	V
Base-emitter turn on voltage *	V _{BE(on)}	I _C =50mA, V _{CE} =10V		0.71	0.9	V
Transition frequency	f _T	I _C =10mA, V _{CE} =20V, f=20MHz	50			MHz
Output capacitance	C _{obo}	V _{CB} =20V, f=1MHz			5	pF
Turn-on time	t _{on}	I _C =50mA, V _{CC} =100V		113		ns
Turn-off time	t _{off}	I _{B1} =5mA, I _{B2} =10mA		3450		ns

* Measured under pulsed conditions. Pulse width = 300 μs; duty cycle <2%

■ Marking

Marking	459
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