

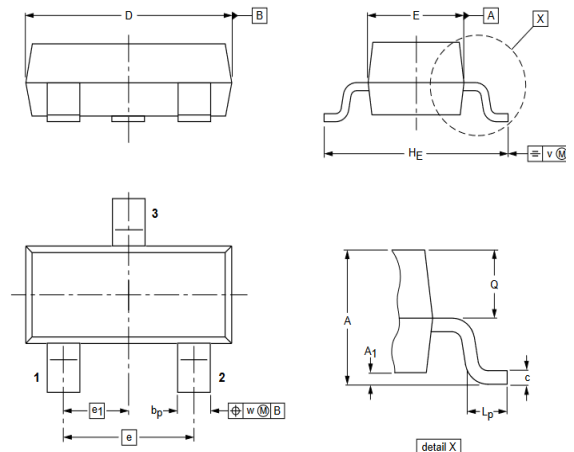
NPN Bipolar Transistor

Primary characteristics			
Symbol	Parameter	Value	Unit
I_C	Continuous collector current	225	mA
V_{CBO}	Collector-base voltage	400	V

Features

- **SOT-23** case for easy automatic insertion
- Pb-free and **RoHS** compliant
- Epitaxial planar die construction

Case dimensions



1 – Gate; 2 – Source; 3 – Drain

SOT-23 (TO-236AB)

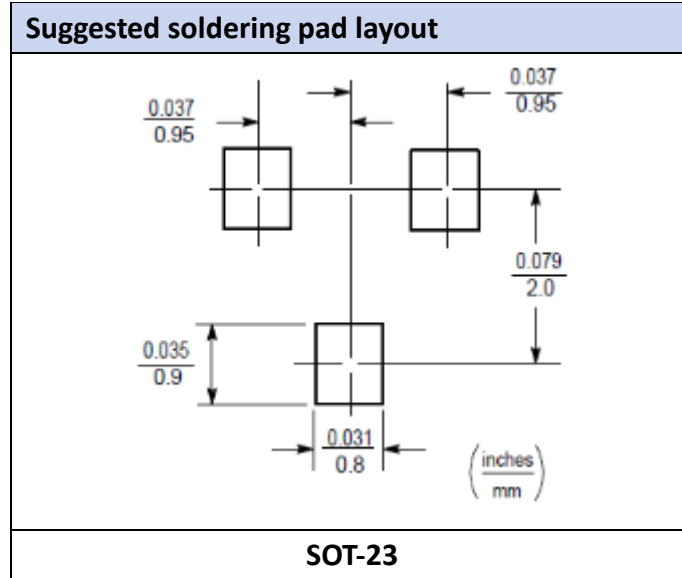
Unit	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	Q	v	w
mm	1.0 ±0.1	0.1	0.43 ±0.05	0.12 ±0.03	2.9 ±0.1	1.3 ±0.1	1.9	0.95	2.3 ±0.2	0.3 ±0.15	0.5 ±0.05	0.2	0.1

Absolute maximum ratings ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Value	Unit
Collector-base voltage	V_{CBO}	400	V
Collector-emitter voltage	V_{CEO}	400	V
Emitter-base voltage	V_{EBO}	5.0	V
Continuous collector current	I_C	225	mA
Total power dissipation	P_D	500	mW
Operating junction temperature range	T_J, T_{STG}	-55 ~ 150	°C

Electrical characteristics (T _A = 25°C)						
Characteristic	Test condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
Collector-base breakdown voltage	I _C =100μA	V _{(BR)CBO}	400	-	-	V
Collector-emitter breakdown voltage	I _C =10mA	V _{(BR)CEO}	400	-	-	V
Emitter-base breakdown voltage	I _E =100μA	V _{(BR)EBO}	5.0	-	-	V
Collector cut-off current	V _{CB} =320V	I _{CBO}	-	-	100	nA
Emitter cutoff current	V _{EB} =3.0V, I _C =0	I _{EBO}	-	-	100	nA
DC current gain	V _{CE} =10V, I _C =1mA	h _{FE}	100	-	-	
	V _{CE} =10V, I _C =50mA		100	-	300	
	V _{CE} =10V, I _C =100mA		15	-	-	
Collector-emitter saturation voltage	I _B =2mA, I _C =20mA	V _{CE(sat)}	-	-	200	mV
	I _B =6mA, I _C =50mA		-	-	500	

Small signal characteristics (T _A = 25°C)						
Characteristic	Test condition	Symbol	Value			Unit
			Min.	Typ.	Max.	
Current gain bandwidth product	I _C =10mA, V _{CE} =20V, f=20MHz	f _T	50	-	-	MHz
Output capacitance	V _{CB} =20V, f=1.0MHz	C _{obo}	-	-	5	pF



Ordering information			
Part Number	Package	Shipping Quantity	Dimensions
FMMT458	SOT-23	3000 pcs / reel	---

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