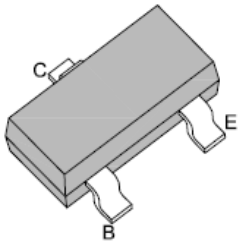
SMD General Purpose Transistor (NPN)



Features

- NPN Silicon Epitaxial Planar Transistor for Switching and Amplifier Applications

Mechanical Data

SOT-23

RoHS Compliant

Case:	SOT-23, Plastic Package
Terminals:	Solderable per MIL-STD-202G, Method 208
Weight:	0.008 gram

Maximum Ratings *(T Ambient=25ºC unless noted otherwise)*

Symbol	Description	MMBT8098	Unit	Conditions
	Marking Code	KA		
V_{CBO}	Collector-Base Voltage	60	V	
V_{CEO}	Collector-Emitter Voltage	60	V	
V_{EBO}	Emitter-Base Voltage	6.0	V	
I_C	Collector Current	0.5	A	
P_{tot}	Power Dissipation (Note 1)	225	mW	T_A=25 ˚C
		1.8	mW/° C	Derate above 25 ˚C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient (Note 1)	556	° C /W	
P_{tot}	Power Dissipation (Note 2)	300	mW	T_A=25 ˚C
		2.4	mW/° C	Derate above 25 ˚C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient (Note 2)	417	° C /W	
T_J	Junction Temperature	150	° C	
T_{STG}	Storage Temperature Range	-55 to +150	° C	

Note: 1. FR-5 Board=25.4 x 19.05 x 1.58 mm (1.0 x 0.75 x 0.062 inches.)
2. Alumina Substrate=10.16 x 7.62 x 0.61 mm (0.4 x 0.3 x 0.024 inches.) 99.5% alumina.

MMBT8098

Electrical Characteristics *(T Ambient=25ºC unless noted otherwise)*

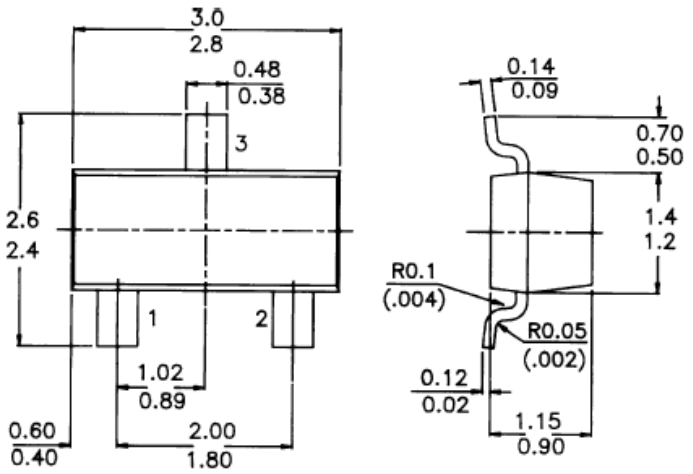
Symbol	Description	Min.	Max.	Unit	Conditions
h_{FE}*	D.C. Current Gain	100	300		V_{CE}=5V, I_C=1mA
		100	-		V_{CE}=5V, I_C=10mA
		75	-		V_{CE}=5V, I_C=100mA
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	60	-	V	I_C=0.1mA, I_E=0
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	60	-	V	I_C=10mA, I_B=0
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	6.0	-	V	I_E=0.01mA, I_C=0
V_{CEsat}*	Collector-Emitter Saturation Voltage	-	0.4	V	I_C=100mA, I_B=5mA
		-	0.3		I_C=100mA, I_B=10mA
V_{BEon}*	Base-Emitter On Voltage	0.5	0.7	V	I_C=1mA, V_{CE}=5V
I_{CES}	Collector Cut-off Current	-	0.1	µA	V_{CE}=60V, I_B=0
I_{CBO}	Base Cut-off Current	-	0.1	µA	V_{CB}=60V, I_E=0
I_{EBO}	Emitter Cut-off Current	-	0.1	µA	V_{EB}=6V, I_C=0
f_T	Current Gain-Bandwidth Product	150	-	MHz	V_{CE}=5V, I_C=10mA, f=100MHz
C_{CBO}	Output Capacitance	-	6	pF	V_{CB}=5V, f=1.0MHz, I_E=0
C_{EBO}	Input Capacitance	-	25	pF	V_{EB}=0.5V, f=1.0MHz, I_C=0

*Pulse Test: Pulse Width ≤ 300µs, Duty Cycle ≤2.0%

MMBT8098

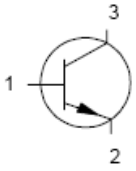
Dimensions in mm

SOT-23



Pin configuration

1 = BASE
2 = EMITTER
3 = COLLECTOR



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