

MMDTC123

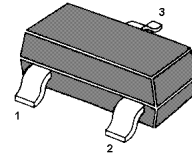
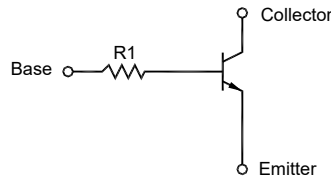
NPN Silicon Epitaxial Planar Digital Transistor

Applications

- Inverter, Interface, Driver

Resistor Values

R1 (KΩ)
2.2



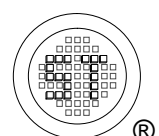
1. Base 2. Emitter 3. Collector
SOT-23 Plastic Package

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

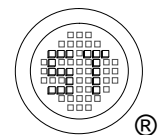
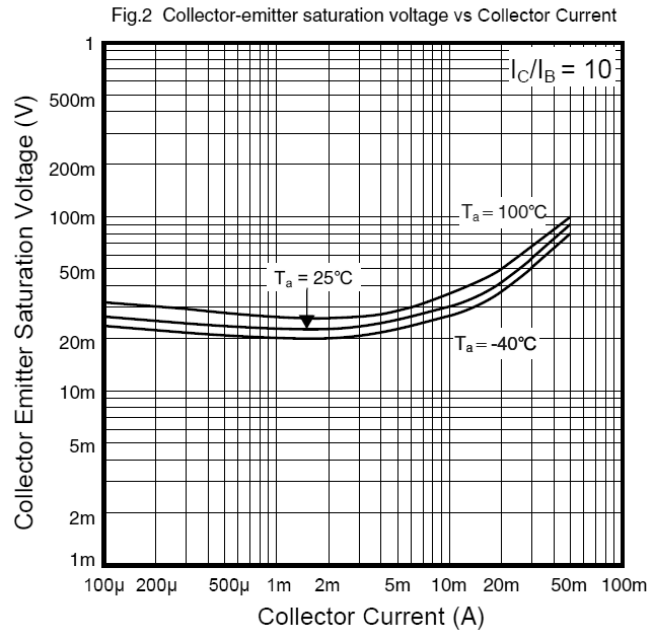
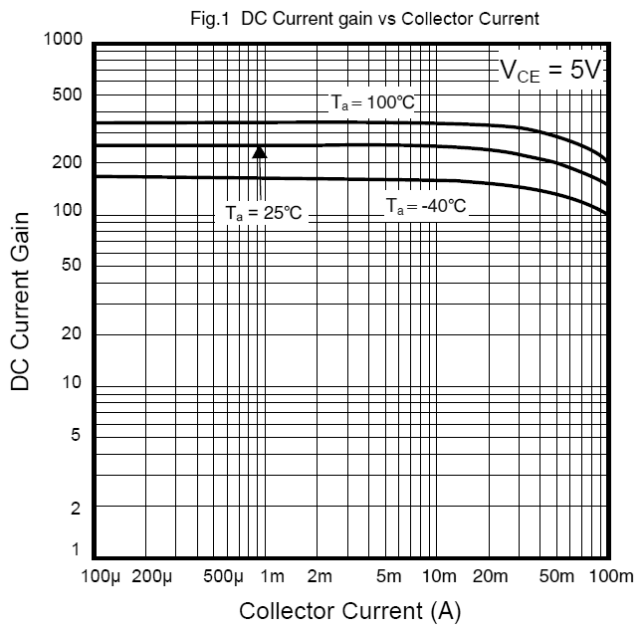
Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	50	V
Collector Emitter Voltage	V_{CEO}	50	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA
Total Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$, $I_C = 1\text{ mA}$	h_{FE}	100	-	600	-
Collector Base Breakdown Voltage at $I_C = 50\ \mu\text{A}$	$V_{(BR)CBO}$	50	-	-	V
Collector Emitter Breakdown Voltage at $I_C = 1\text{ mA}$	$V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $I_E = 50\ \mu\text{A}$	$V_{(BR)EBO}$	5	-	-	V
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	I_{CBO}	-	-	0.5	μA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	0.5	μA
Collector Emitter Saturation Voltage at $I_C / I_B = 5\text{ mA} / 0.25\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Transition Frequency at $V_{CB} = 10\text{ V}$, $-I_E = 5\text{ mA}$, $f = 100\text{ MHz}$	f_T	-	250	-	MHz
Input Resistor	R1	1.54	-	2.86	KΩ



Electrical Characteristics Curves

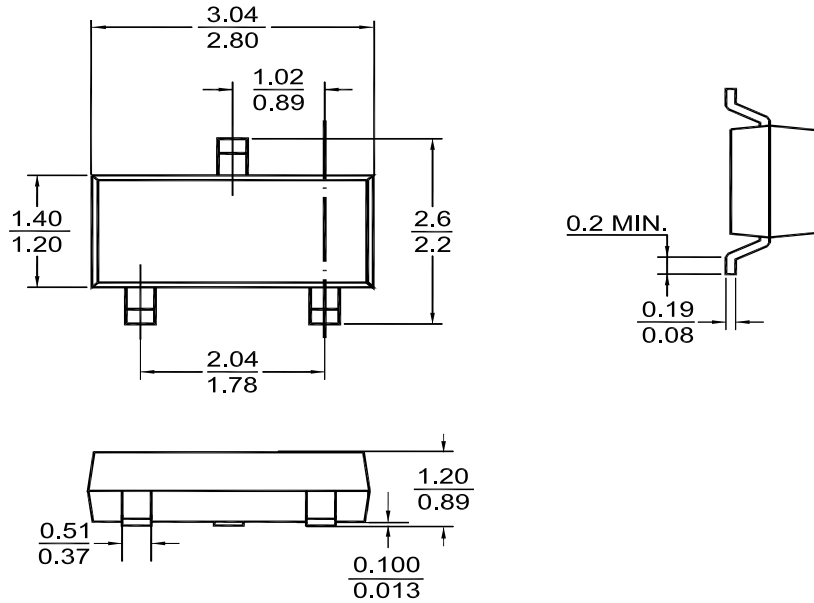


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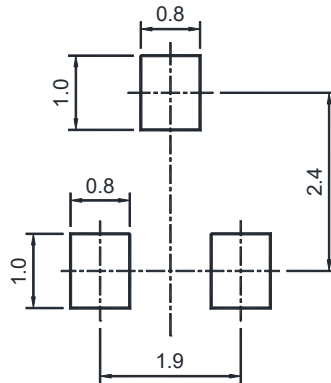
PACKAGE OUTLINE

Plastic surface mounted package (Dimensions in mm)

SOT-23



Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

- "ZZ" = Part No.
- "YM" = Date Code Marking
- "Y" = Year
- "M" = Month
- Font type: Arial

