

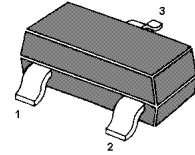
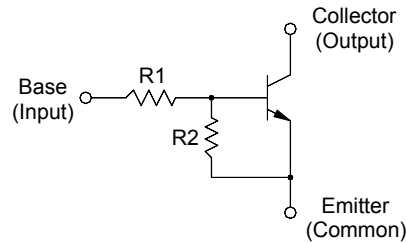
# MMDT1N434

## NPN Silicon Epitaxial Planar Transistor

for switching and interface circuit and drive circuit applications

### Features

- With built-in bias resistors
- Simplify circuit design
- Reduce a quantity of parts and manufacturing process



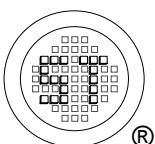
1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

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

Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	50	V
Collector Emitter Voltage	$V_{CEO}$	50	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_{tot}$	200	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 5\text{ mA}$	$h_{FE}$	50	-	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Collector Emitter Breakdown Voltage at $I_C = 100\text{ }\mu\text{A}$	$V_{(BR)CEO}$	50	-	-	V
Collector Emitter Saturation Voltage at $I_C = 10\text{ mA}$ , $I_B = 0.5\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Input On Voltage at $V_{CE} = 0.2\text{ V}$ , $I_C = 5\text{ mA}$	$V_{I(on)}$	-	-	1.7	V
Input Off Voltage at $V_{CE} = 5\text{ V}$ , $I_C = 100\text{ }\mu\text{A}$	$V_{I(off)}$	0.5	-	-	V
Input Resistor	$R_1$	3.29	4.7	6.11	K $\Omega$
Input Resistor	$R_2$	15.4	22	28.6	K $\Omega$
Resistance Ratio	$R_2 / R_1$	3.6	4.5	5.5	-
Transition Frequency at $V_{CE} = 10\text{ V}$ , $-I_E = 5\text{ mA}$ , $f = 100\text{ MHz}$	$f_T$	-	250	-	MHz



**SEMTECH ELECTRONICS LTD.**

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ISO/TS 16949 : 2002  
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