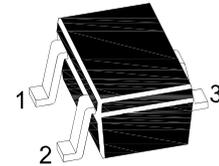
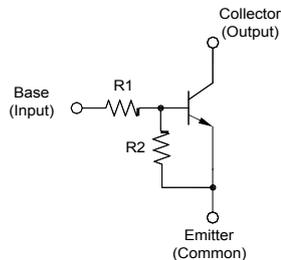


## NPN Silicon Epitaxial Planar Digital Transistor

### Features

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



1.Base 2.Emittter 3.Collector  
SOT-523 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	$V_{EBO}$	10	V
Collector Current	$I_C$	100	mA
Power Dissipation	$P_{tot}$	100	mW
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$	$h_{FE}$	80	-	-	-
Collector Base Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	-	0.1	$\mu\text{A}$
Collector Emitter Cutoff Current at $V_{CE} = 50\text{ V}$	$I_{CEO}$	-	-	0.5	$\mu\text{A}$
Emitter Base Cutoff Current at $V_{EB} = 10\text{ V}$	$I_{EBO}$	0.082	-	0.15	mA
Collector Emitter Saturation Voltage at $I_C = 5\text{ mA}$ , $I_B = 0.25\text{ mA}$	$V_{CE(sat)}$	-	-	0.3	V
Input Voltage (ON) at $V_{CE} = 0.2\text{ V}$ , $I_C = 5\text{ mA}$	$V_{I(ON)}$	1.5	-	5	V
Input Voltage (OFF) at $V_{CE} = 5\text{ V}$ , $I_C = 0.1\text{ mA}$	$V_{I(OFF)}$	1	-	1.5	V
Transition Frequency at $V_{CE} = 10\text{ V}$ , $I_C = 5\text{ mA}$	$f_T$	-	250	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$ , $f = 1\text{ MHz}$	$C_{ob}$	-	-	6	pF
Input Resistance	$R_1$	32.9	47	61.1	K $\Omega$
Resistance Ratio	$R_2 / R_1$	0.8	1	1.2	-

**MMDTC1104E**
