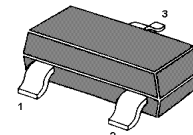


MMBT4240

NPN Silicon General Purpose Transistor



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}	40	V
Collector Emitter Voltage	V_{CEO}	40	V
Emitter Base Voltage	V_{EBO}	5	V
Collector Current (DC)	I_C	2	A
Peak Collector Current	I_{CM}	3	A
Peak Base Current	I_{BM}	300	mA
Total Power Dissipation	P_{tot}	200 ¹⁾	mW
		480 ²⁾	
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 65 to + 150	$^\circ\text{C}$

¹⁾ Device mounted on a printed-circuit board; single sided copper; tinplated and standard footprint.

²⁾ Device mounted on a printed-circuit board; single sided copper; tinplated; mounting pad for collector 1cm².

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain					
at $V_{CE} = 2\text{ V}$, $I_C = 100\text{ mA}$	h_{FE}	350	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 500\text{ mA}$	h_{FE}	300	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 1\text{ A}$	h_{FE}	250	-	-	-
at $V_{CE} = 2\text{ V}$, $I_C = 2\text{ A}$	h_{FE}	80	-	-	-
Collector Base Cutoff Current at $V_{CB} = 30\text{ V}$	I_{CBO}	-	-	100	nA
Emitter Base Cutoff Current at $V_{EB} = 4\text{ V}$	I_{EBO}	-	-	100	nA
Collector Emitter Saturation Voltage					
at $I_C = 100\text{ mA}$, $I_B = 1\text{ mA}$	$V_{CE(sat)}$	-	-	70	mV
at $I_C = 500\text{ mA}$, $I_B = 50\text{ mA}$		-	-	100	
at $I_C = 750\text{ mA}$, $I_B = 15\text{ mA}$		-	-	180	
at $I_C = 1\text{ A}$, $I_B = 50\text{ mA}$		-	-	180	
at $I_C = 2\text{ A}$, $I_B = 200\text{ mA}$		-	-	320	
Base Emitter Saturation Voltage at $I_C = 2\text{ A}$, $I_B = 200\text{ mA}$	$V_{BE(sat)}$	-	-	1.1	V
Base Emitter Turn-on Voltage at $V_{CE} = 2\text{ V}$, $I_C = 100\text{ mA}$	$V_{BE(on)}$	-	-	0.75	V
Transition Frequency at $V_{CE} = 10\text{ V}$, $I_C = 100\text{ mA}$, $f = 100\text{ MHz}$	f_T	100	230	-	MHz
Collector Output Capacitance at $V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$	C_{ob}	-	15	20	pF

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