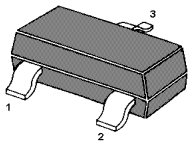
MMBT4240

NPN Silicon General Purpose Transistor



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

Absolute Maximum Ratings (T_a = 25 °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	°C
Storage Temperature Range	T_{stg}	- 65 to + 150	°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 1cm^2.

Characteristics at T_a = 25 °C

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