

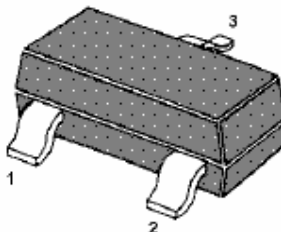
Kingtronics®

MMBT3906

PNP Silicon General Purpose Transistors

For switching and amplifier applications

As complementary types the NPN transistors MMBT3904 is recommended.



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	-VCBO	40	V
Collector Emitter Voltage	-VCEO	40	V
Emitter Base Voltage	-VEBO	6	V
Collector Current	-IC	200	mA
Power Dissipation	Ptot	350	mW
Junction Temperature	Tj	150	°C
Storage Temperature Range	Tstg	- 55 to + 150	°C

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

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
DC Current Gain				
at $-V_{CE} = 1\text{ V}$, $-I_C = 0.1\text{ mA}$	h_{FE}	60	-	-
at $-V_{CE} = 1\text{ V}$, $-I_C = 1\text{ mA}$		80	-	
at $-V_{CE} = 1\text{ V}$, $-I_C = 10\text{ mA}$		100	300	
at $-V_{CE} = 1\text{ V}$, $-I_C = 50\text{ mA}$		60	-	
at $-V_{CE} = 1\text{ V}$, $-I_C = 100\text{ mA}$		30	-	
Collector Base Cutoff Current at $-V_{CB} = 30\text{ V}$	$-I_{CBO}$	-	50	nA
Emitter Base Cutoff Current at $-V_{EB} = 6\text{ V}$	$-I_{EBO}$	-	50	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	V
Collector Emitter Breakdown Voltage at $-I_C = 1\text{ mA}$	$-V_{(BR)CEO}$	40	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	6	-	V
Collector Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 1\text{ mA}$ at $-I_C = 50\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{CE(sat)}$	-	0.25 0.4	V
Base Emitter Saturation Voltage at $-I_C = 10\text{ mA}$, $-I_B = 1\text{ mA}$ at $-I_C = 50\text{ mA}$, $-I_B = 5\text{ mA}$	$-V_{BE(sat)}$	0.65 -	0.85 0.95	V
Current Gain Bandwidth Product at $-V_{CE} = 20\text{ V}$, $-I_C = 10\text{ mA}$, $f = 100\text{ MHz}$	f_T	250	-	MHz
Output Capacitance at $-V_{CB} = 5\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$	C_{obo}	-	4.5	pF
Delay Time at $-V_{CC} = 3\text{ V}$, $-V_{BE} = 0.5\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = 1\text{ mA}$	t_d	-	35	ns
Rise Time at $-V_{CC} = 3\text{ V}$, $-V_{BE} = 0.5\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = 1\text{ mA}$	t_r	-	35	ns
Storage Time at $-V_{CC} = 3\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = I_{B2} = 1\text{ mA}$	t_s	-	225	ns
Fall Time at $-V_{CC} = 3\text{ V}$, $-I_C = 10\text{ mA}$, $-I_{B1} = I_{B2} = 1\text{ mA}$	t_f	-	75	ns

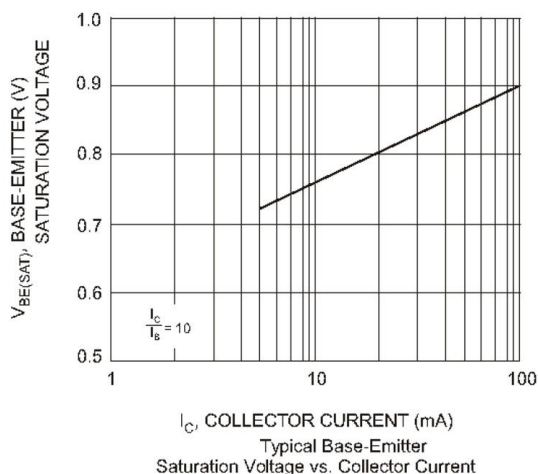
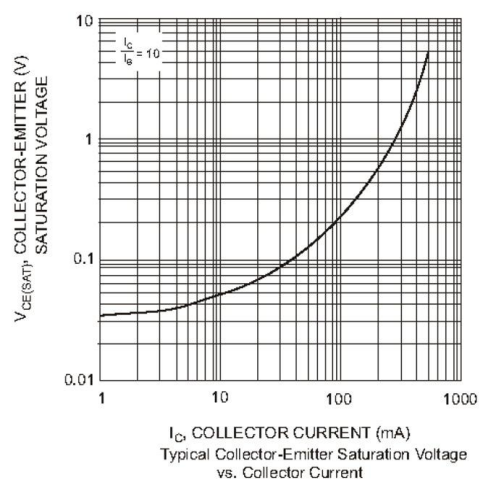
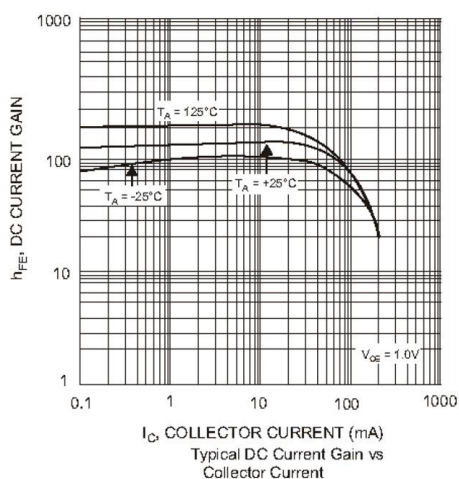
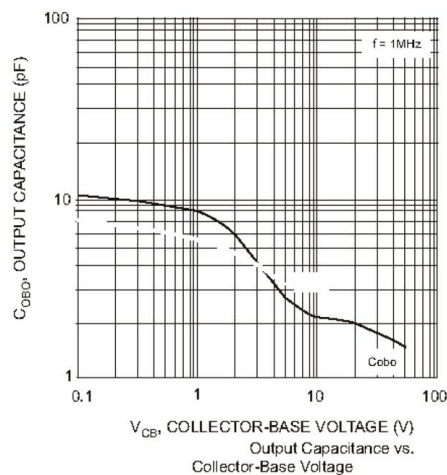
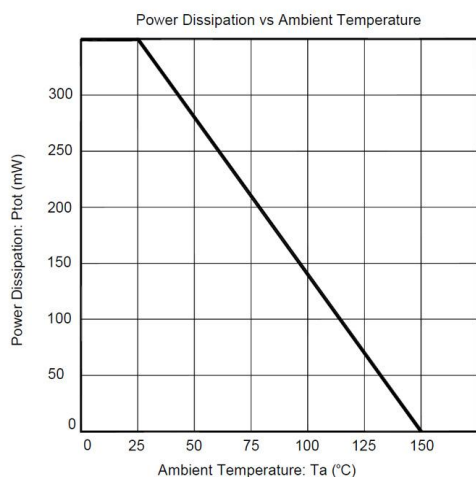
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RATINGS AND CHARACTERISTIC CURVES MMBT3906



Note: Specifications are subject to change without notice.

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