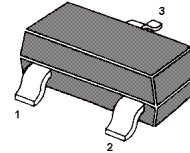


MMBT2907 / MMBT2907A

PNP Silicon Epitaxial Planar Transistor

for switching and AF amplifier applications.

The transistor is subdivided into one group according to its DC current gain.



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	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	40 60	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	600	mA
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	- 55 to + 150	$^\circ\text{C}$

MMBT2907 / MMBT2907A

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

Parameter		Symbol	Min.	Max.	Unit
DC Current Gain at $-I_C = 0.1\text{ mA}$, $-V_{CE} = 10\text{ V}$	MMBT2907	h_{FE}	35	-	-
	MMBT2907A	h_{FE}	75	-	-
at $-I_C = 1\text{ mA}$, $-V_{CE} = 10\text{ V}$	MMBT2907	h_{FE}	50	-	-
	MMBT2907A	h_{FE}	100	-	-
at $-I_C = 10\text{ mA}$, $-V_{CE} = 10\text{ V}$	MMBT2907	h_{FE}	75	-	-
	MMBT2907A	h_{FE}	100	-	-
at $-I_C = 150\text{ mA}$, $-V_{CE} = 10\text{ V}$	MMBT2907	h_{FE}	100	300	-
	MMBT2907A	h_{FE}	100	-	-
at $-I_C = 500\text{ mA}$, $-V_{CE} = 10\text{ V}$	MMBT2907	h_{FE}	30	-	-
	MMBT2907A	h_{FE}	50	-	-
Collector Base Cutoff Current at $-V_{CB} = 50\text{ V}$	MMBT2907	$-I_{CBO}$	-	20	nA
	MMBT2907A	$-I_{CBO}$	-	10	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$		$-V_{(BR)CBO}$	60	-	V
Collector Emitter Breakdown Voltage at $-I_C = 10\text{ mA}$	MMBT2907	$-V_{(BR)CEO}$	40	-	V
	MMBT2907A	$-V_{(BR)CEO}$	60	-	V
Emitter Base Breakdown Voltage at $-I_E = 10\text{ }\mu\text{A}$		$-V_{(BR)EBO}$	5	-	V
Collector Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$		$-V_{CE(sat)}$	-	0.4	V
		$-V_{CE(sat)}$	-	1.6	V
Base Saturation Voltage at $-I_C = 150\text{ mA}$, $-I_B = 15\text{ mA}$		$-V_{BE(sat)}$	-	1.3	V
		$-V_{BE(sat)}$	-	2.6	V
Gain Bandwidth Product at $-I_C = 50\text{ mA}$, $-V_{CE} = 20\text{ V}$, $f = 100\text{ MHz}$		f_T	200	-	MHz
Collector Output Capacitance at $-V_{CB} = 10\text{ V}$, $f = 1\text{ MHz}$		C_{ob}	-	8	pF
Turn-on Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$		t_{on}	-	45	ns
Delay Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$		t_d	-	10	ns
Rise Time at $-V_{CC} = 30\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = 15\text{ mA}$		t_r	-	40	ns
Turn-off Time at $-V_{CC} = 6\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = -I_{B2} = 15\text{ mA}$		t_{off}	-	100	ns
Storage Time at $-V_{CC} = 6\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = -I_{B2} = 15\text{ mA}$		t_s	-	80	ns
Fall Time at $-V_{CC} = 6\text{ V}$, $-I_C = 150\text{ mA}$, $-I_{B1} = -I_{B2} = 15\text{ mA}$		t_f	-	30	ns

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