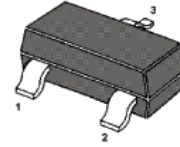


**PNP Silicon Epitaxial Planar Transistor**

for switching and AF amplifier applications.

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

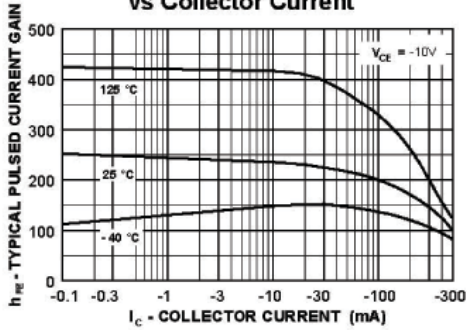


1. Base 2. Emitter 3. Collector  
SOT-23 Plastic Package

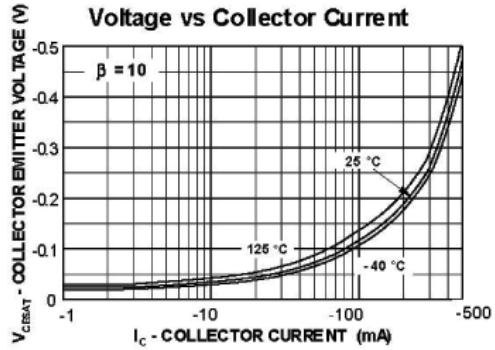
**Absolute Maximum Ratings ( $T_a = 25\text{ }^\circ\text{C}$ )**

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	$^\circ\text{C}$

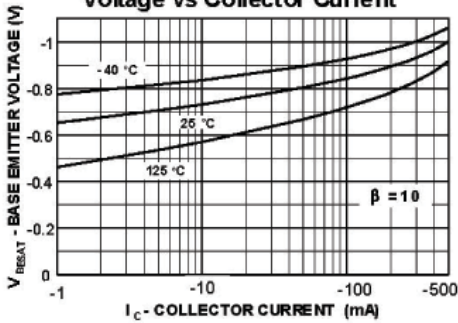
**Typical Pulsed Current Gain vs Collector Current**



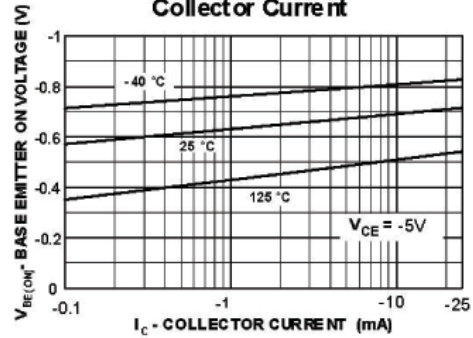
**Collector-Emitter Saturation Voltage vs Collector Current**



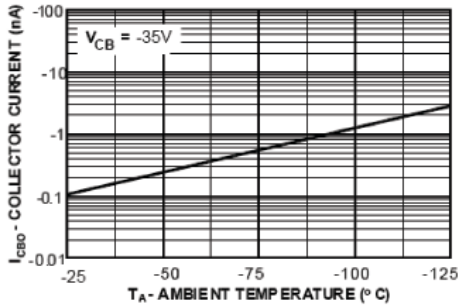
**Base-Emitter Saturation Voltage vs Collector Current**



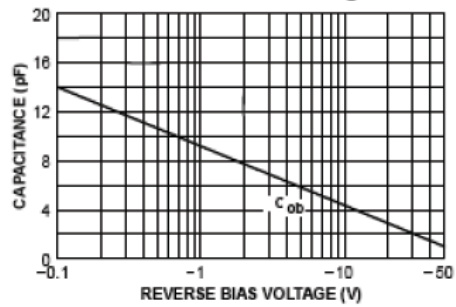
**Base Emitter ON Voltage vs Collector Current**



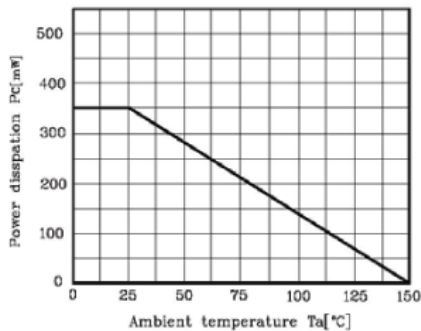
**Collector-Cutoff Current vs Ambient Temperature**



**Input and Output Capacitance vs Reverse Bias Voltage**



**$P_C T_A$**



**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	$h_{FE}$	30	-	-
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