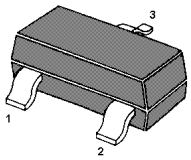
MMBTSA1281

PNP Silicon Epitaxial Planar Transistor

for power amplifier and power switching applications



1. Base 2. Emitter 3. Collector

SOT-23 Plastic Package

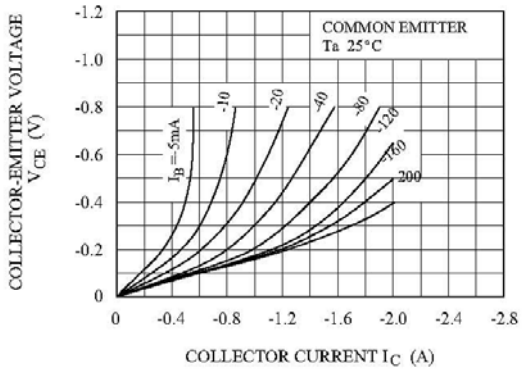
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	50	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	2	A
Power Dissipation	P_{tot}	350	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	- 55 to + 150	°C

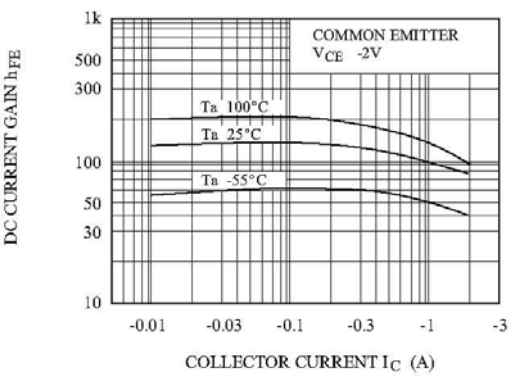
Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain							
at $-V_{CE}$ = 2 V, $-I_C$ = 0.5 A	Current Gain Group	O	h_{FE}	70	-	140	-
		Y	h_{FE}	120	-	240	-
at $-V_{CE}$ = 2 V, $-I_C$ = 1.5 A			h_{FE}	40	-	-	-
Collector Base Cutoff Current at $-V_{CB}$ = 50 V			$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 5 V			$-I_{EBO}$	-	-	100	nA
Collector Emitter Breakdown Voltage at $-I_C$ = 10 mA			$-V_{(BR)CEO}$	50	-	-	V
Collector Emitter Saturation Voltage at $-I_C$ =1 A, $-I_B$ = 50 mA			$-V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $-I_C$ =1 A, $-I_B$ = 50 mA			$-V_{BE(sat)}$	-	-	1.2	V
Current Gain Bandwidth Product at $-V_{CE}$ = 2 V, $-I_C$ = 0.5 A			f_T	-	100	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 10 V, f = 1 MHz			C_{ob}	-	40	-	pF
Turn-on Time at $-V_{CC}$ = 30 V, $-I_{B1} = I_{B2}$ = 50 mA			t_{on}	-	100	-	ns
Storage Time at $-V_{CC}$ = 30 V, $-I_{B1} = I_{B2}$ = 50 mA			t_{stg}	-	1	-	µs
Fall Time at $-V_{CC}$ = 30 V, $-I_{B1} = I_{B2}$ = 50 mA			t_f	-	100	-	ns

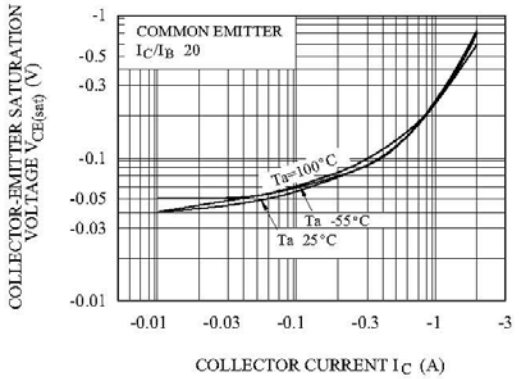
V_{CE} - I_C



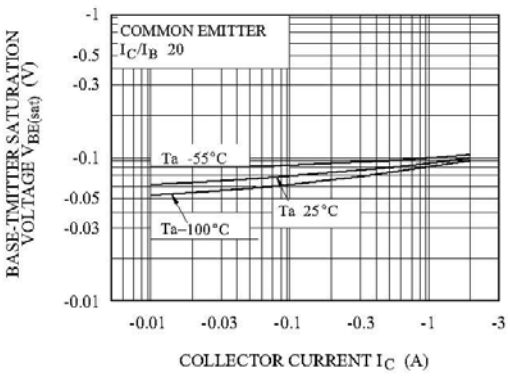
h_{FE} - I_C



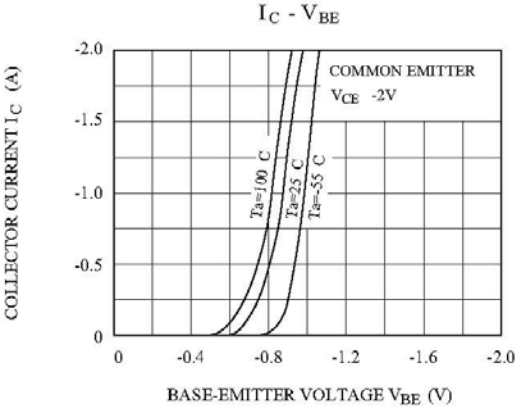
$V_{CE(sat)}$ - I_C



$V_{BE(sat)}$ - I_C



I_C - V_{BE}



Ptot - Ta