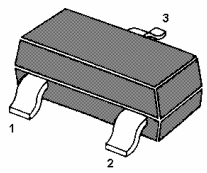
MMBTSA1256

PNP Silicon Epitaxial Planar Transistor

for use in FM RF amplifier, mixer, oscillators, converters and IF amplifiers applications

The transistor is subdivided into three groups, R, Q and Y according to its DC current gain.



1.BASE 2.EMITTER 3.COLLECTOR

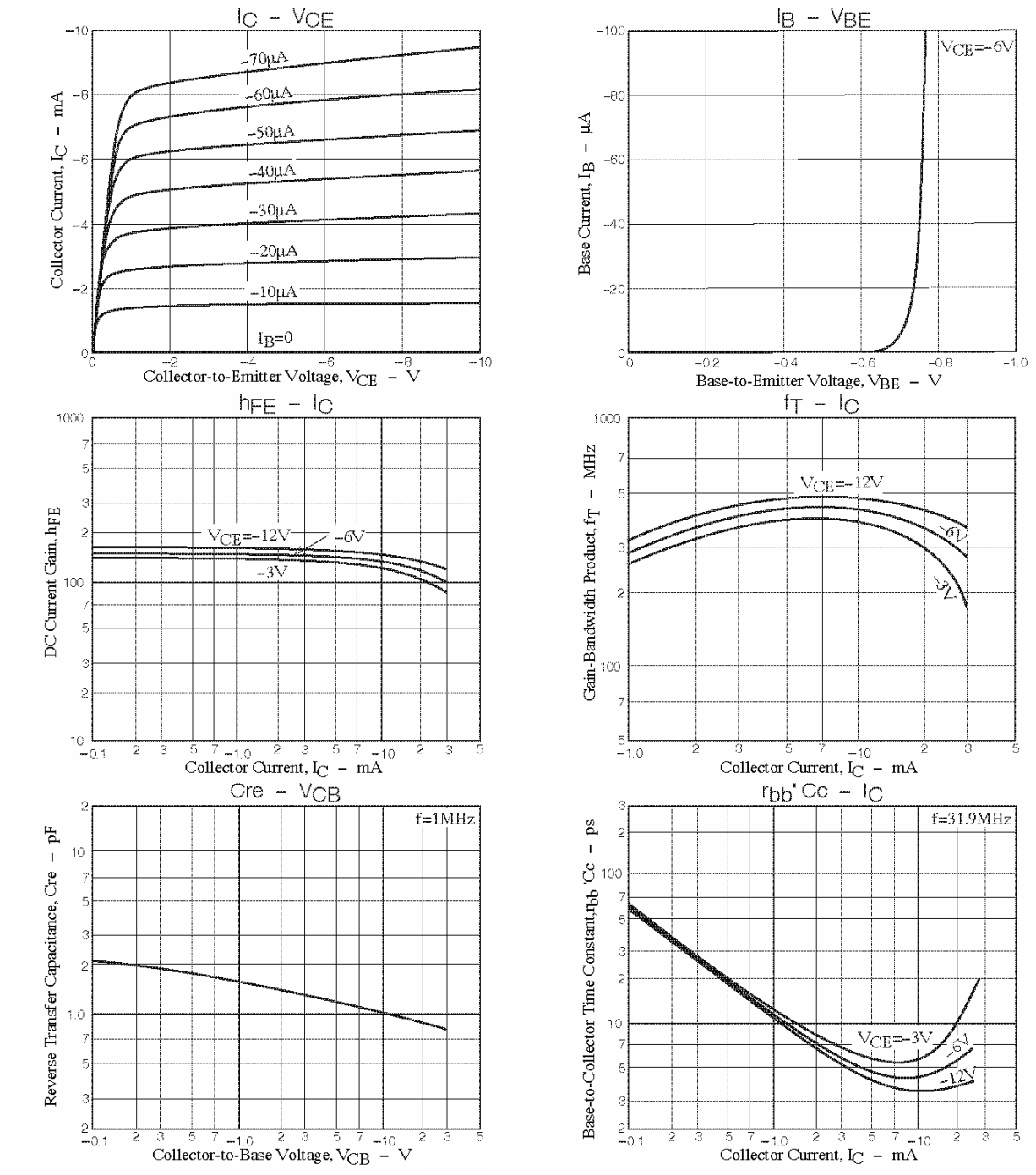
SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	30	V
Collector Emitter Voltage	$-V_{CEO}$	20	V
Emitter Base Voltage	$-V_{EBO}$	5	V
Collector Current	$-I_C$	30	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_S	- 55 to + 125	°C

Characteristics at T_a = 25 °C

Parameter			Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 6 V, $-I_C$ = 1 mA	Current Gain Group	R Q Y	h_{FE} h_{FE} h_{FE}	60 90 135	- - -	120 180 270	- - -
Collector Cutoff Current at $-V_{CB}$ = 10 V			$-I_{CBO}$	-	-	0.1	µA
Emitter Cutoff Current at $-V_{EB}$ = 4 V			$-I_{EBO}$	-	-	0.1	µA
Transition Frequency at $-V_{CE}$ = 6 V, $-I_C$ = 1 mA			f_T	150	230	-	MHz
Reverse Transfer Capacitance at $-V_{CB}$ = 6 V, f = 1 MHz			C_{re}	-	-	1.7	pF
Noise Figure at $-V_{CE}$ = 6 V, $-I_C$ = 1 mA, f = 100 MHz			NF	-	2.5	-	dB


IC – VCE
Collector Current, IC – mA
Collector-to-Emitter Voltage, VCE – V
–70μA
–60μA
–50μA
–40μA
–30μA
–20μA
–10μA
IB=0
IB – VBE
Base Current, IB – μA
Base-to-Emitter Voltage, VBE – V
VCE=–6V
hFE – IC
DC Current Gain, hFE
Collector Current, IC – mA
VCE=–12V
–6V
–3V
fT – IC
Gain-Bandwidth Product, fT – MHz
Collector Current, IC – mA
VCE=–12V
–6V
–3V
Cre – VCB
Reverse Transfer Capacitance, Cre – pF
Collector-to-Base Voltage, VCB – V
f=1MHz
rbb'Cc – IC
Base-to-Collector Time Constant,rbb'Cc – ps
Collector Current, IC – mA
f=31.9MHz
VCE=–3V
–6V
–12V