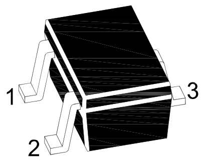
MMBTSC5086E

NPN Silicon Epitaxial Planar Transistor

for VHF~UHF band low noise amplifier application



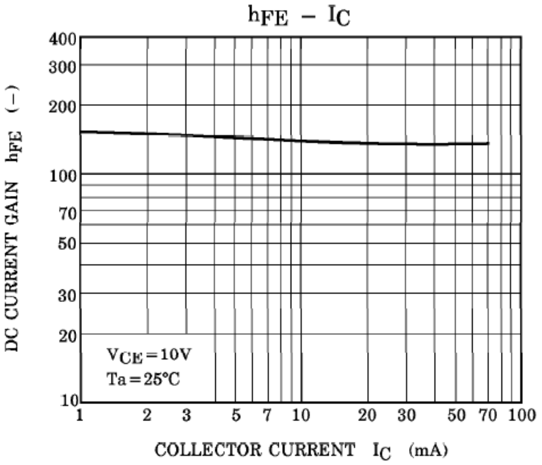
1.Base 2.Emitter 3.Collector
SOT-523 Plastic Package

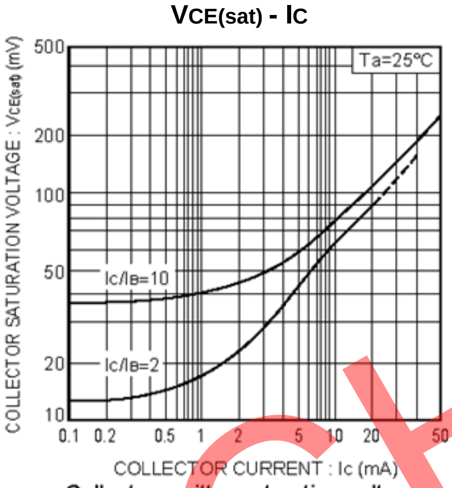
Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	V_{CBO}	20	V
Collector Emitter Voltage	V_{CEO}	12	V
Emitter Base Voltage	V_{EBO}	3	V
Collector Current	I_C	80	mA
Base Current	I_B	40	mA
Collector Power Dissipation	P_{tot}	100	mW
Junction Temperature	T_j	125	°C
Storage Temperature Range	T_{stg}	- 55 to + 125	°C

Characteristics at T_a = 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at V_{CE} = 10 V, I_C = 20 mA Current Gain Group O Y	h_{FE} h_{FE}	80 120	- -	160 240	- -
Collector Base Cutoff Current at V_{CB} = 10 V	I_{CBO}	-	-	1	µA
Emitter Base Cutoff Current at V_{EB} = 1 V	I_{EBO}	-	-	1	µA
Collector Base Breakdown Voltage at I_C = 10 µA	$V_{(BR)CBO}$	20	-	-	V
Collector Emitter Breakdown Voltage at I_C = 1 mA	$V_{(BR)CEO}$	12	-	-	V
Emitter Base Breakdown Voltage at I_E = 10 µA	$V_{(BR)EBO}$	3	-	-	V
Collector Emitter Saturation Voltage at I_C = 10 mA, I_B = 5 mA	$V_{CE(sat)}$	-	-	0.5	V
Transition Frequency at V_{CE} = 10 V, I_C = 20 mA	f_T	5	-	-	GHz
Collector Output Capacitance at V_{CB} = 10 V, f = 1 MHz	C_{ob}	-	1	-	pF





Collector-emitter saturation voltage vs. collector current