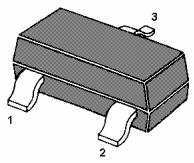
MMBTSA1235

PNP Silicon Epitaxial Planar Transistor

for low frequency amplification applications

The transistor is subdivided into two groups E and F, according to its DC current gain.



1. Base 2. Emitter 3. Collector

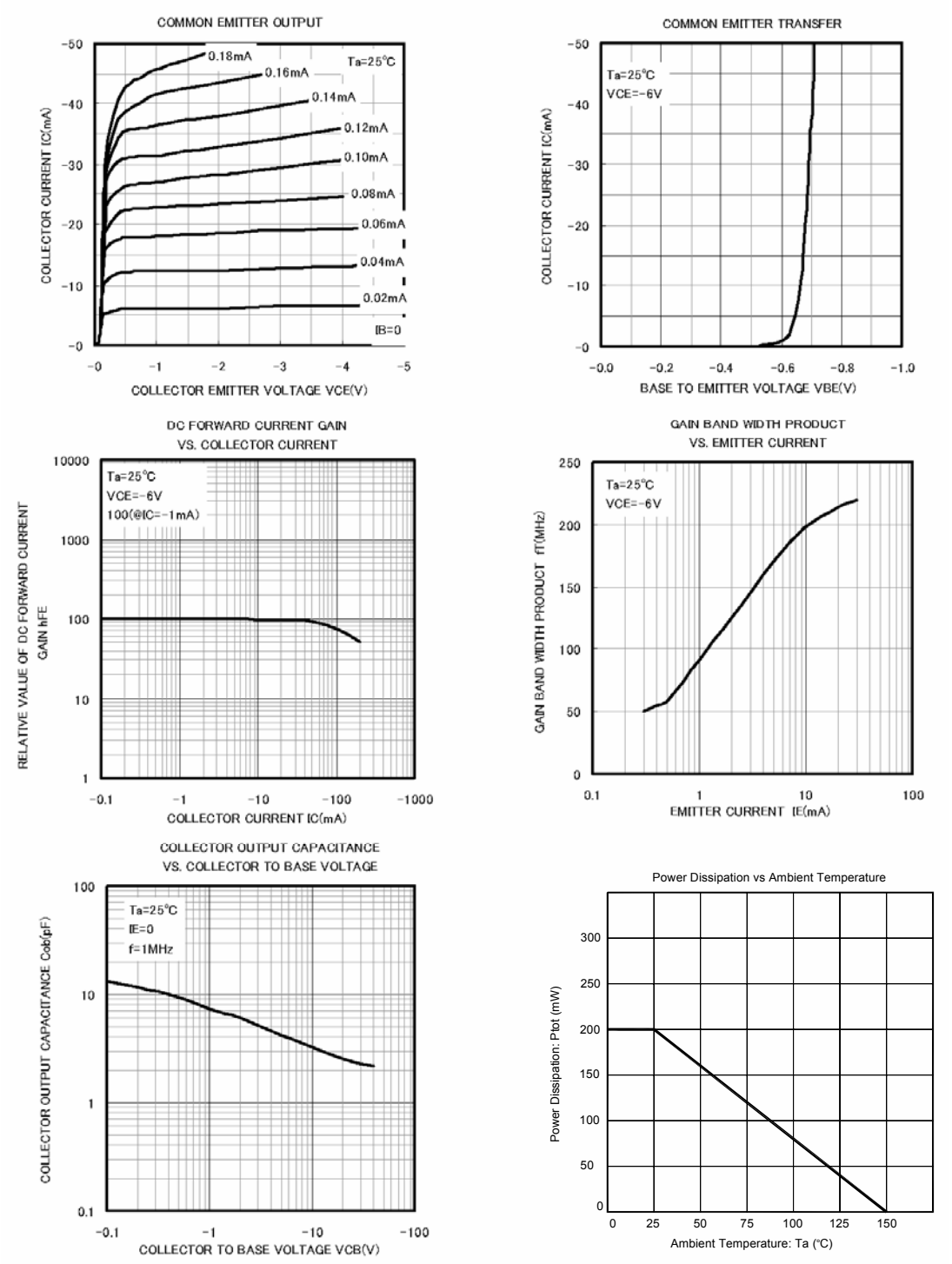
SOT-23 Plastic Package

Absolute Maximum Ratings (T_a = 25 °C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	60	V
Collector Emitter Voltage	$-V_{CEO}$	50	V
Emitter Base Voltage	$-V_{EBO}$	6	V
Collector Current	$-I_C$	200	mA
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_S	- 55 to + 150	°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	E	h_{FE}	150	-	300	-
		F	h_{FE}	250	-	500	-
at $-V_{CE}$ = 6 V, $-I_C$ = 0.1 mA			h_{FE}	90	-	-	-
Collector Base Breakdown Voltage at $-I_C$ = 100 µA			$-V_{(BR)CBO}$	60	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 100 µA			$-V_{(BR)CEO}$	50	-	-	V
Emitter Base Breakdown Voltage at $-I_C$ = 100 µA			$-V_{(BR)EBO}$	6	-	-	V
Collector Cutoff Current at $-V_{CB}$ = 60 V			$-I_{CBO}$	-	-	0.1	µA
Emitter Cutoff Current at $-V_{EB}$ = 6 V			$-I_{EBO}$	-	-	0.1	µA
Collector Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 10 mA			$-V_{CE(sat)}$	-	-	0.3	V
Base Emitter Saturation Voltage at $-I_C$ = 100 mA, $-I_B$ = 10 mA			$-V_{BE(sat)}$	-	-	1	V
Gain Bandwidth Product at $-V_{CE}$ = 6 V, $-I_C$ = 10 mA			f_T	-	200	-	MHz
Collector Output Capacitance at $-V_{CB}$ = 6 V, f = 1 MHz			C_{ob}	-	4	-	pF
Noise Figure at $-V_{CE}$ = 6 V, I_E = 0.3 mA, f = 100 Hz, R_G = 10 KΩ			NF	-	-	20	dB


COMMON EMITTER OUTPUT
COLLECTOR CURRENT IC(mA)
COLLECTOR EMITTER VOLTAGE VCE(V)
Ta=25°C
0.18mA
0.16mA
0.14mA
0.12mA
0.10mA
0.08mA
0.06mA
0.04mA
0.02mA
IB=0
COMMON EMITTER TRANSFER
Ta=25°C
VCE=-6V
BASE TO EMITTER VOLTAGE VBE(V)
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT
RELATIVE VALUE OF DC FORWARD CURRENT GAIN hFE
Ta=25°C
VCE=-6V
100(@IC=-1mA)
COLLECTOR CURRENT IC(mA)
GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT
GAIN BAND WIDTH PRODUCT fT(MHz)
Ta=25°C
VCE=-6V
EMITTER CURRENT IE(mA)
COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE
COLLECTOR OUTPUT CAPACITANCE Cob(pF)
Ta=25°C
IE=0
f=1MHz
COLLECTOR TO BASE VOLTAGE VCB(V)
Power Dissipation vs Ambient Temperature
Power Dissipation: Ptot (mW)
Ambient Temperature: Ta (°C)