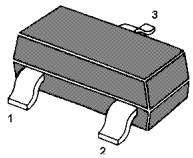
MMBTSA1235

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

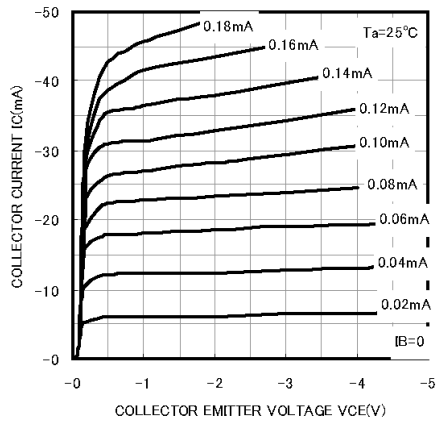
Absolute Maximum Ratings (T_a = 25 °C)

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_{stg}	- 55 to + 150	°C

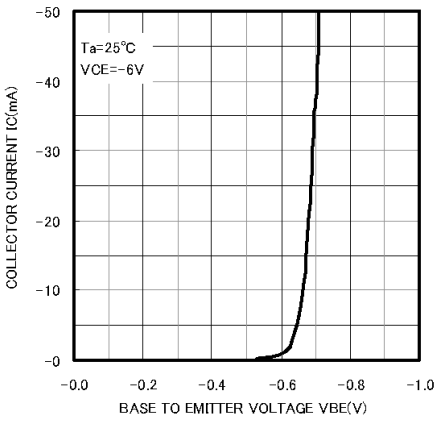
Characteristics at T_a = 25 °C

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 Cutoff Current at $-V_{CB}$ = 60 V			$-I_{CBO}$	-	-	100	nA
Emitter Base Cutoff Current at $-V_{EB}$ = 6 V			$-I_{EBO}$	-	-	100	nA
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 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

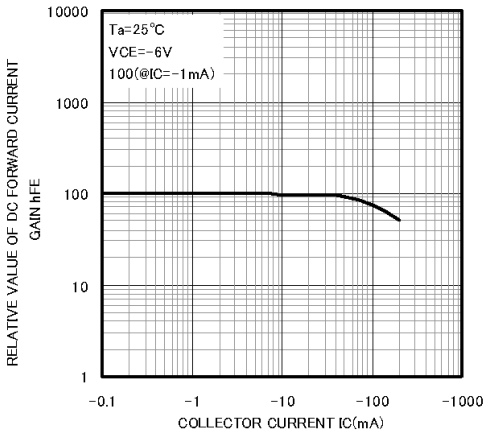
COMMON EMITTER OUTPUT



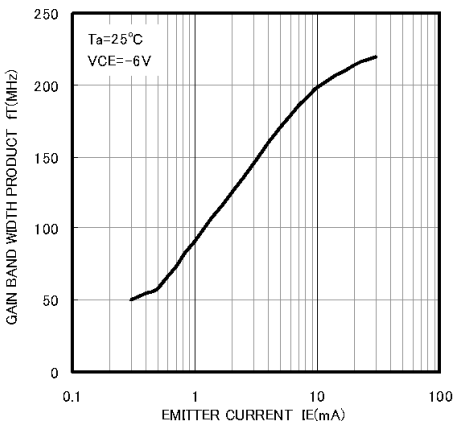
COMMON EMITTER TRANSFER



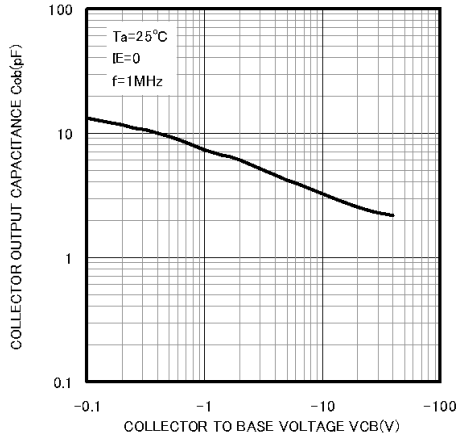
DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT



GAIN BAND WIDTH PRODUCT
VS. EMITTER CURRENT



COLLECTOR OUTPUT CAPACITANCE
VS. COLLECTOR TO BASE VOLTAGE



Power Dissipation vs Ambient Temperature