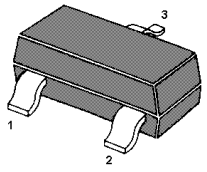
MMBTSA1365

PNP Silicon Epitaxial Planar Transistor

for high current drive application

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



1.BASE 2.EMITTER 3.COLLECTOR

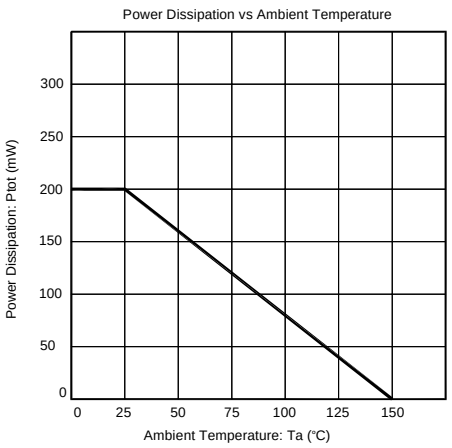
TO-236 Plastic Package

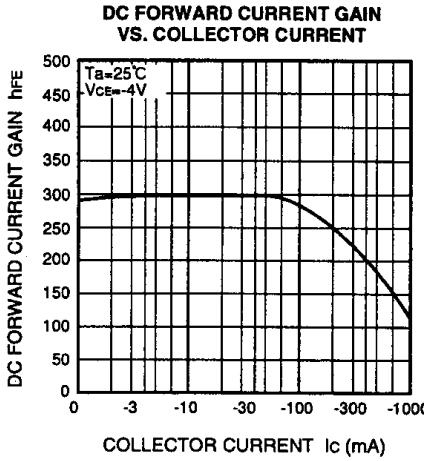
Absolute Maximum Ratings (T_a = 25 °C)

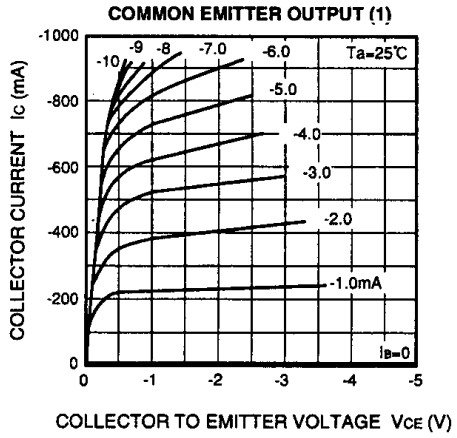
Parameter	Symbol	Value	Unit
Collector Base Voltage	$-V_{CBO}$	25	V
Collector Emitter Voltage	$-V_{CEO}$	20	V
Emitter Base Voltage	$-V_{EBO}$	4	V
Collector Current	$-I_C$	700	mA
Peak Collector Current	$-I_{CM}$	1	A
Power Dissipation	P_{tot}	200	mW
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{Stg}	- 55 to + 150	°C

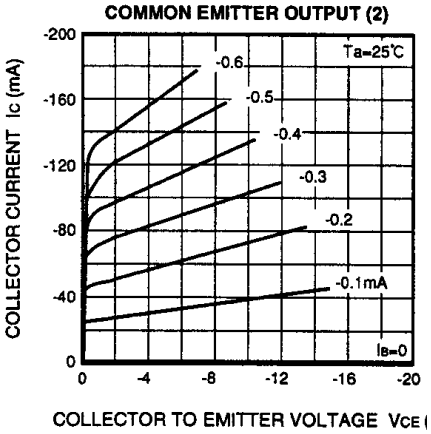
Characteristics at T_a = 25 °C

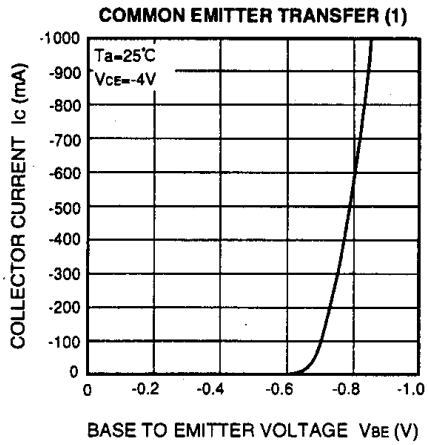
Parameter		Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE}$ = 4 V, $-I_C$ = 100 mA	E	h_{FE}	150	-	300	-
	F	h_{FE}	250	-	500	-
	G	h_{FE}	400	-	800	-
Collector Cutoff Current at $-V_{CB}$ = 25 V		$-I_{CBO}$	-	-	1	µA
Emitter Cutoff Current at $-V_{EB}$ = 2 V		$-I_{EBO}$	-	-	1	µA
Collector Base Breakdown Voltage at $-I_C$ = 10 µA		$-V_{(BR)CBO}$	25	-	-	V
Collector Emitter Breakdown Voltage at $-I_C$ = 100 µA		$-V_{(BR)CEO}$	20	-	-	V
Emitter Base Breakdown Voltage at $-I_E$ = 10 µA		$-V_{(BR)EBO}$	4	-	-	V
Collector Saturation Voltage at $-I_C$ = 500 mA, $-I_B$ = 25 mA		$-V_{CE(sat)}$	-	-	0.5	V
Transition Frequency at $-V_{CE}$ = 6 V, I_E = 10 mA		f_T	-	180	-	MHz

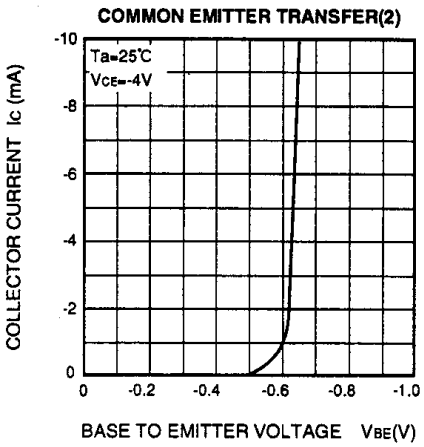

Power Dissipation vs Ambient Temperature
Power Dissipation: Ptot (mW)
300
250
200
150
100
50
0
0 25 50 75 100 125 150
Ambient Temperature: Ta (°C)


DC FORWARD CURRENT GAIN
VS. COLLECTOR CURRENT
Ta=25℃
VCE=-4V
DC FORWARD CURRENT GAIN hFE
500
450
400
350
300
250
200
150
100
50
0
0 -3 -10 -30 -100 -300 -1000
COLLECTOR CURRENT Ic (mA)


COMMON EMITTER OUTPUT (1)
COLLECTOR CURRENT Ic (mA)
-1000
-800
-600
-400
-200
0
Ta=25℃
-9 -8 -7.0 -6.0 -10
-5.0
-4.0
-3.0
-2.0
-1.0mA
IB=0
0 -1 -2 -3 -4 -5
COLLECTOR TO EMITTER VOLTAGE VCE (V)


COMMON EMITTER OUTPUT (2)
COLLECTOR CURRENT Ic (mA)
-200
-160
-120
-80
-40
0
Ta=25℃
-0.6
-0.5
-0.4
-0.3
-0.2
-0.1mA
IB=0
0 -4 -8 -12 -16 -20
COLLECTOR TO EMITTER VOLTAGE VCE (


COMMON EMITTER TRANSFER (1)
COLLECTOR CURRENT Ic (mA)
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
Ta=25℃
VCE=-4V
0 -0.2 -0.4 -0.6 -0.8 -1.0
BASE TO EMITTER VOLTAGE VBE (V)


COMMON EMITTER TRANSFER(2)
COLLECTOR CURRENT Ic (mA)
-10
-8
-6
-4
-2
0
Ta=25℃
VCE=-4V
0 -0.2 -0.4 -0.6 -0.8 -1.0
BASE TO EMITTER VOLTAGE VBE(V)