GOOD-ARK
SEMICONDUCTOR

MMBT2029AM
PNP Transistor

Features

- Excellent h_{FE} linearity
- Complementery NPN available
- SOT-723 plastic-encapsulate package
- RoHS compliant

SOT-723

1. BASE
2. EMITTER
3. COLLECTOR

Applications

- Ideal for General Purpose Amplification and Switching

Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-60	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-6	V
Collector Current -Continuous	I_C	-150	mA
Collector Dissipation	P_C	150	mW
Junction Temperature	T_J	-55 to +150	°C
Storage Temperature	T_{STG}	-55 to +150	°C

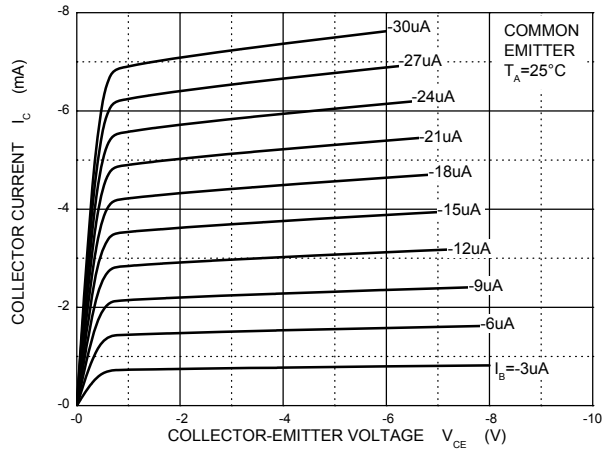
Electrical Characteristics (T_A=25°C unless otherwise specified)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=-50μA,I_E=0	-60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-1mA,I_B=0	-50	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=-50μA,I_C=0	-6	-	-	V
Collector Cut-off Current	I_{CBO}	V_{CB}=-60V,I_E=0	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-6V,I_C=0	-	-	-0.1	μA
DC Current Transfer Ratio	h_{FE}	V_{CE}=-6V,I_C=-1mA	120	-	560	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-50mA,I_B=-5mA	-	-	-0.5	V
Transition Frequency	f_T	V_{CE}=-12V,I_C=2mA, f=30MHz	-	140	-	MHz
Output Capacitance	C_{ob}	V_{CB}=-12V,I_E=0, f=1MHz	-	-	5	pF

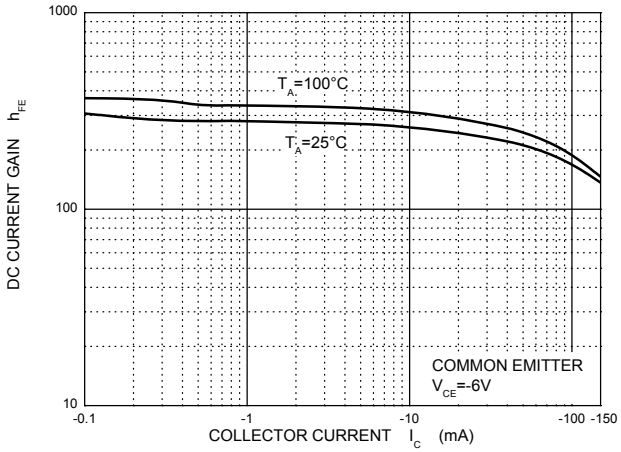
Classification of h_{FE}

Rank	Q	R	S
Range	120 to 270	180 to 390	270 to 560
Marking	FQ	FR	FS

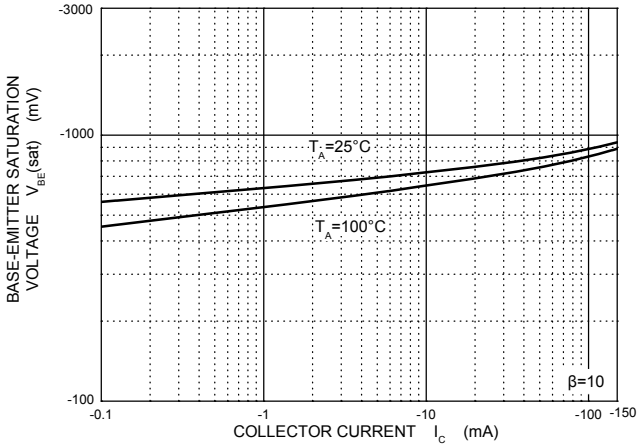
Typical Characteristic Curves



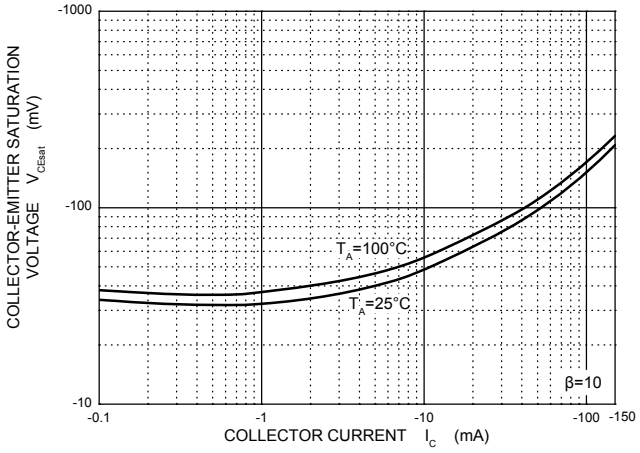
Static Characteristic



h_{FE} —— I_C

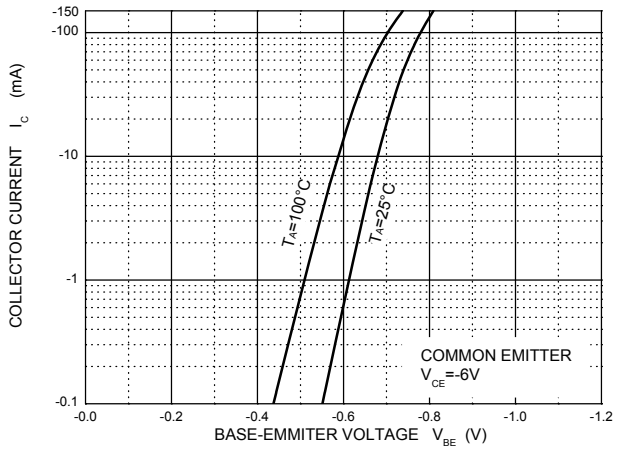


V_{BEsat} —— I_C

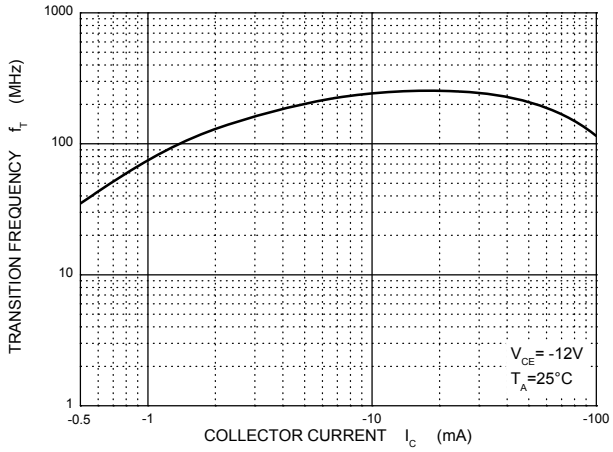


V_{CEsat} —— I_C

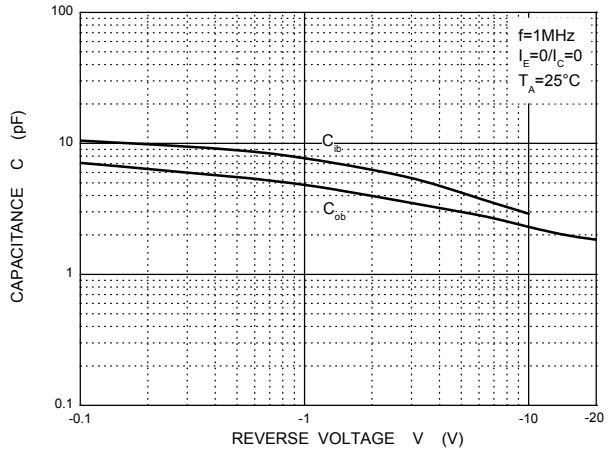
Typical Characteristic Curves



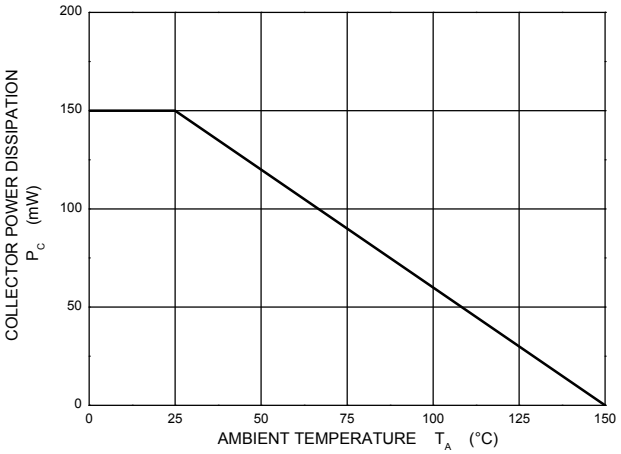
I_C —— V_{BE}



f_T —— I_C

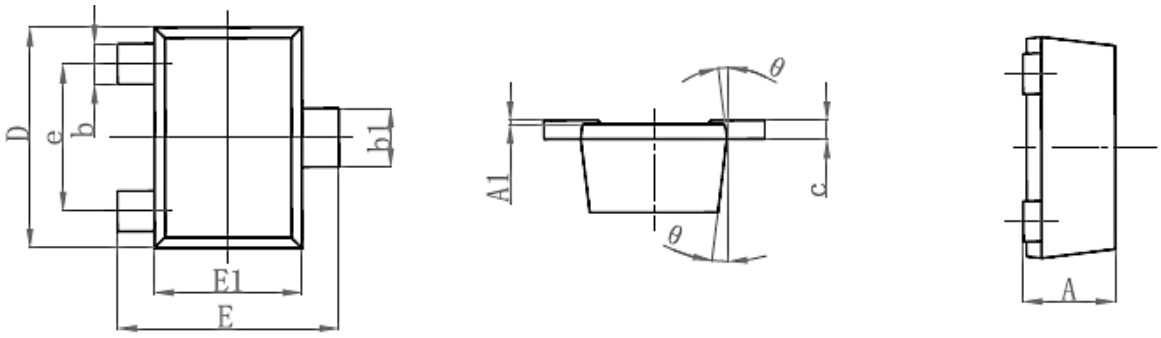


C_{ob}/ C_{ib} —— V_{CB}/ V_{EB}



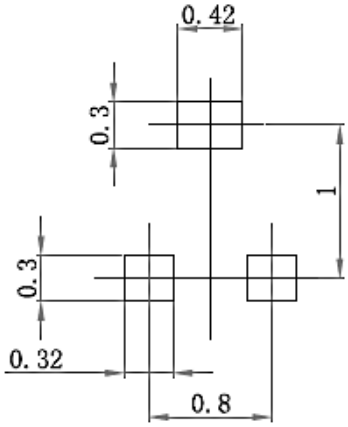
P_C —— T_a

Package Outline Dimensions SOT-723



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A		0.500		0.020
A1	0.000	0.050	0.000	0.002
b	0.170	0.270	0.007	0.011
b1	0.270	0.370	0.011	0.015
c		0.150		0.006
D	1.150	1.250	0.045	0.049
E	1.150	1.250	0.045	0.049
E1	0.750	0.850	0.030	0.033
e	0.800TYP.		0.031TYP.	
θ	7° REF.		7° REF.	

Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.