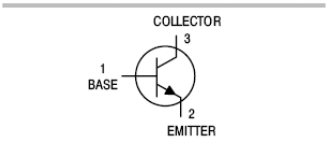
NPN High Voltage Amplifier

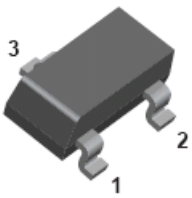
Features:

- Epitaxial planar die construction
- Ideal for medium power amplification and switching

Applications:

- NPN High voltage amplifier





SOT-23

Maximum Rating @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Value	Units
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	300	
Emitter-Base Voltage	V_{EBO}	6	
Collector Current (DC)	I_C	0.2	A
Collector Dissipation	P_C	0.35	W
Junction and Storage Temperature	T_j, T_{stg}	-55 to +150	°C

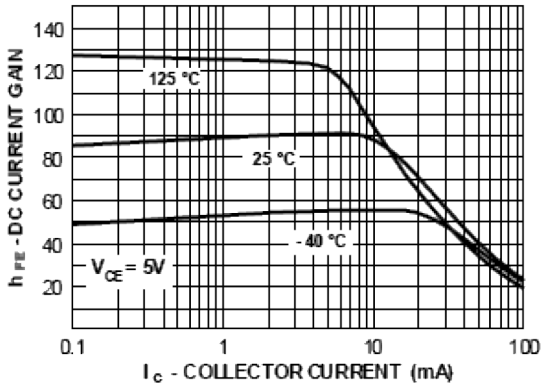
Electrical Characteristics @ T_A = 25°C unless otherwise specified

Parameter	Symbol	Test conditions	Min.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C = 100µA, I_E = 0	300	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C = 1mA, I_B = 0	300	-	
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E = 100µA, I_C = 0	6	-	
Collector Cut-Off Current	I_{CBO}	I_E = 0, V_{CB} = 200V	-	0.1	µA
Emitter Cut-Off Current	I_{EBO}	I_C = 0, V_{EB} = 6V	-		
DC Current Gain	h_{FE}	V_{CE} = 10V, I_C = 1mA V_{CE} = 10V, I_C = 10mA V_{CE} = 10V, I_C = 30mA	25 40 40	- - -	

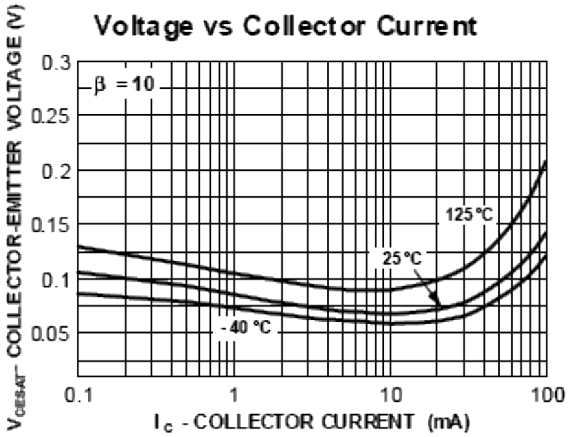
Parameter	Symbol	Test conditions	Min.	Max.	Unit
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C = 20mA, I_B = 2mA	-	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C = 20mA, I_B = 2mA	-	0.9	
Collector Output Capacitance	C_{ob}	V_{CB} = 20V, I_E = 0 f =1MHz		3	pF
Transition Frequency	f_T	I_C = 10mA, V_{CE} = 20V f =100MHz	50	-	MHz

Typical Characteristics @ T_A = 25°C unless otherwise specified

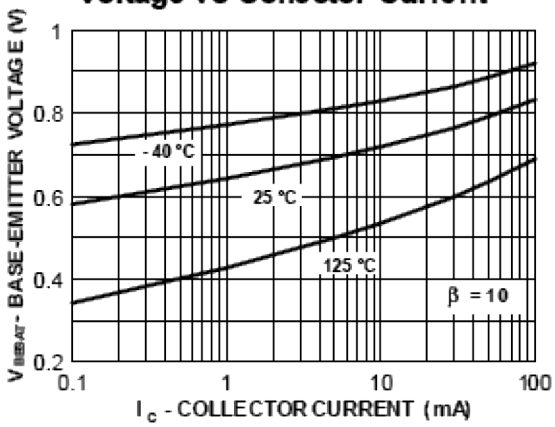
DC Current Gain vs Collector Current



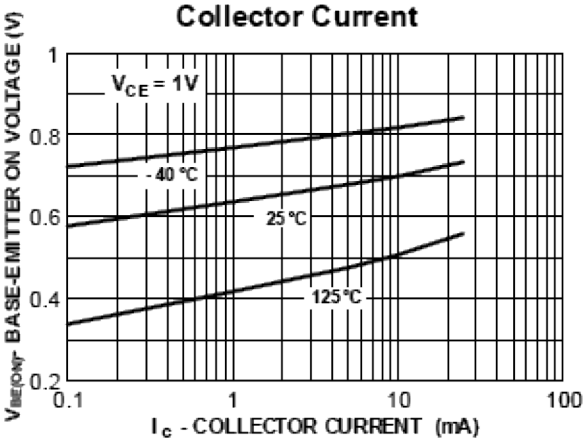
Collector-Emitter Saturation Voltage vs Collector Current



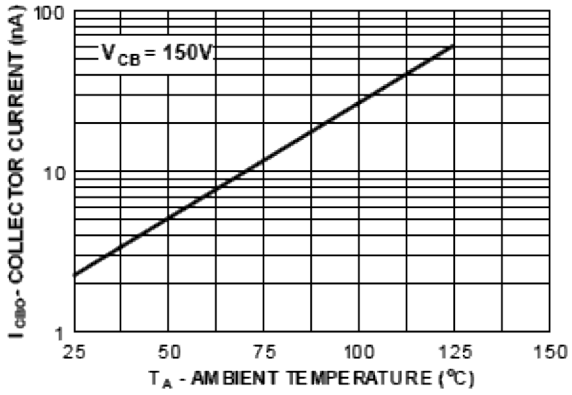
Base-Emitter Saturation Voltage vs Collector Current



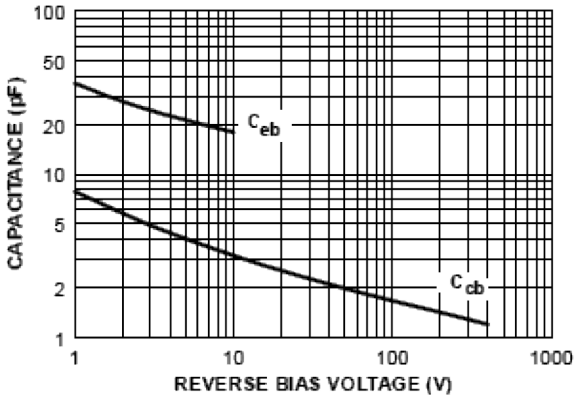
Base-Emitter ON Voltage vs Collector Current



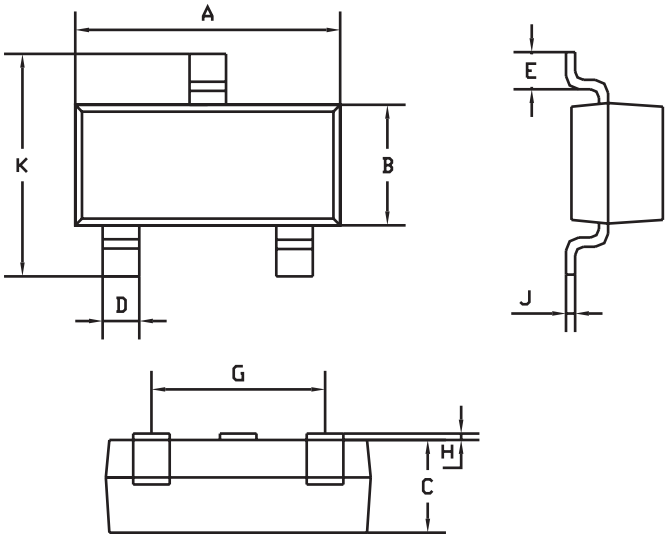
Collector-Cutoff Current
vs Ambient Temperature



Collector-Base and Emitter-Base
Capacitance vs Reverse Bias Voltage

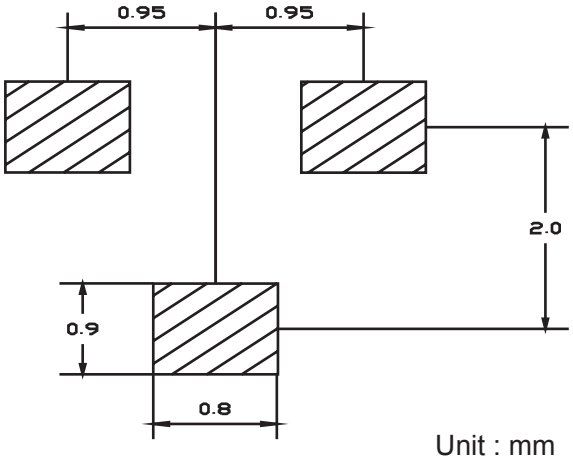


Plastic Surface Mounted Package:



SOT-23		
Dim	Min	Max
A	2.85	2.95
B	1.25	1.35
C	1 Typical	
D	0.37	0.43
E	0.35	0.48
G	1.85	1.95
H	0.02	0.1
J	0.1 Typical	
K	2.35	2.45
All Dimensions in mm		

Soldering Footprint:



Unit : mm

Part Number Table

Description	Part Number
Transistor, Bipolar, NPN, 300V, 200mA, SOT-23	MMBTA42-7-F