

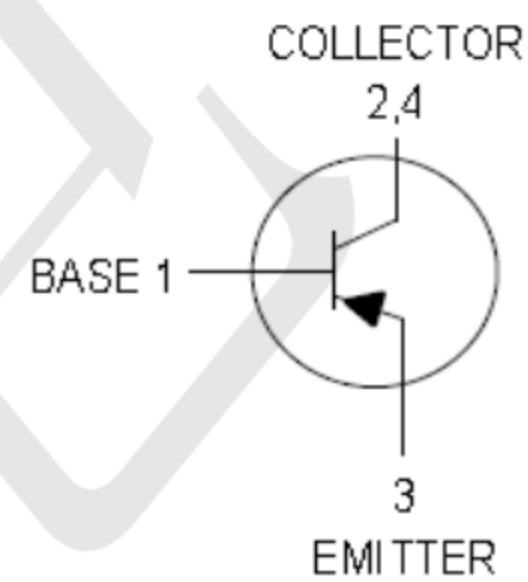
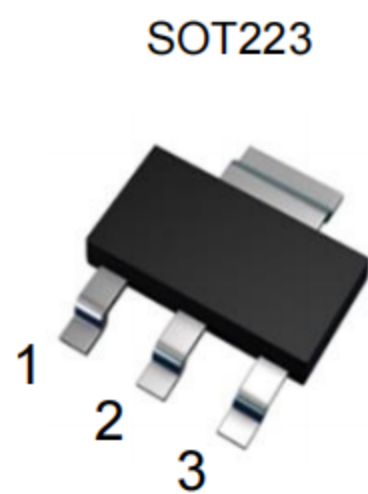
Features

- High Collector Current
- Low Collector-emitter Saturation Voltage

Mechanical Data

- Case: SOT-223
- Molding compound, UL flammability classification rating 94V-0
- Terminals: Matte tin plated leads, solderable per MIL-STD-202, Method 208

Circuit Diagram



Marking: ZT2907A

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V _{CB0}	-60	V
Collector-Emitter Breakdown Voltage	V _{CEO}	-60	V
Emitter-Base Breakdown Voltage	V _{EB0}	-5	V
Collector Current (Continuous)	I _c	-0.6	A

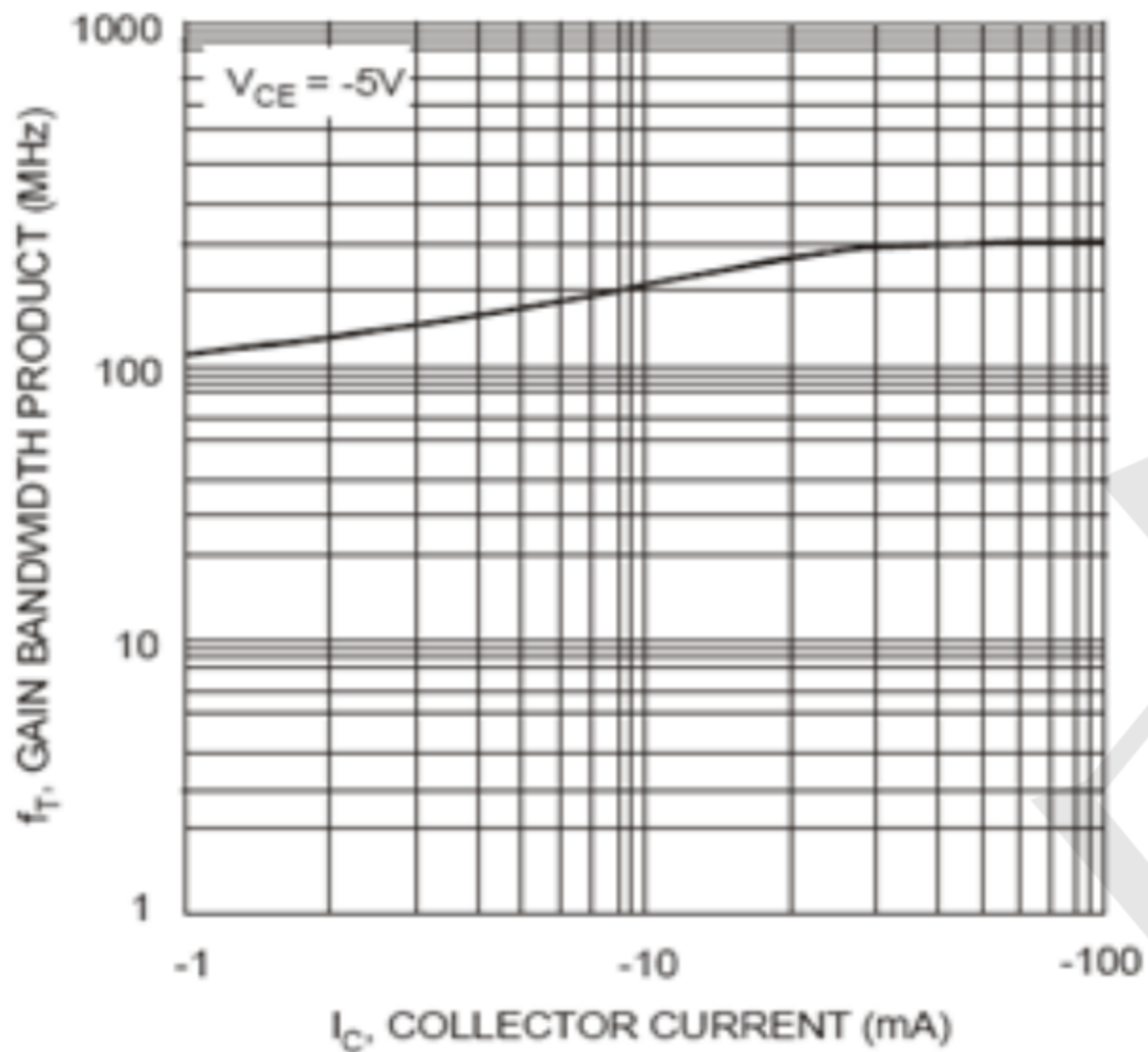
Thermal Characteristic

Parameter	Symbol	Value	Unit
Power Dissipation (Collector) *1	P _D	1.15	W
Thermal Resistance (Junction-to-Ambient)	R _{θJA}	108	°C/W
Junction Temperature	T _J	-55 ~ +150	°C
Storage Temperature Range	T _{STG}	-55 ~ +150	°C

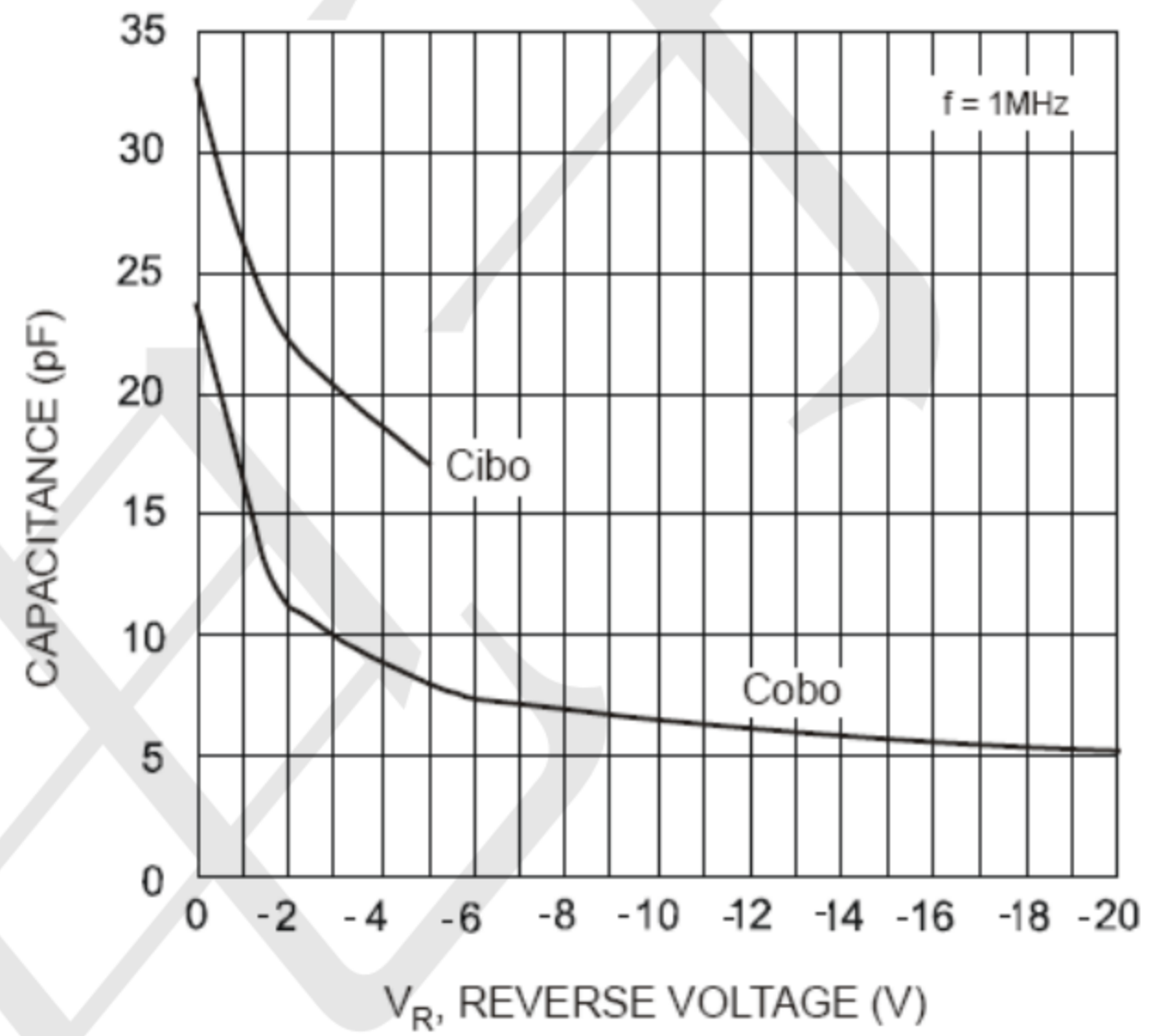


Electrical Characteristics (TA=25°C unless otherwise specified)

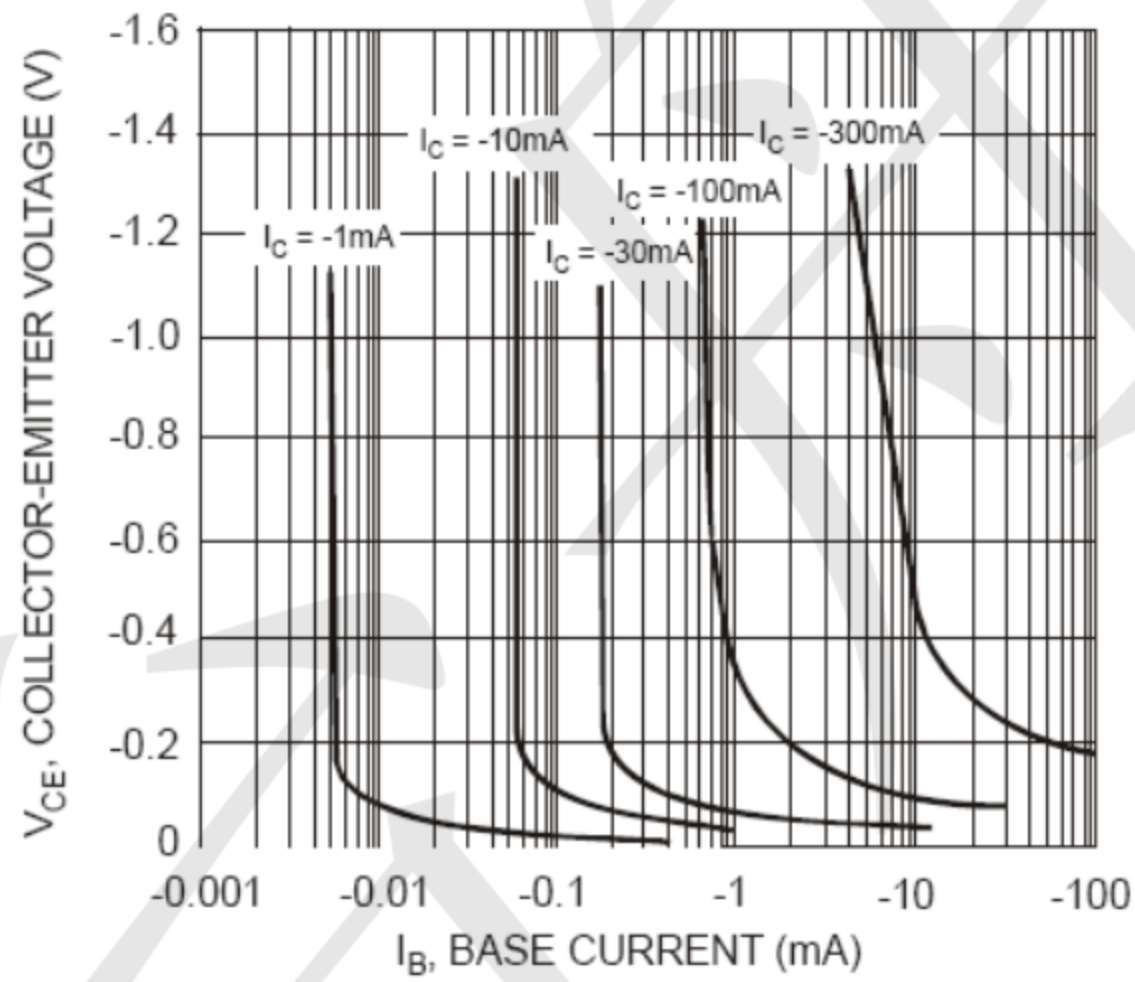
Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -10\mu A, I_E = 0$	-60	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10mA, I_B = 0$	-60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = -10\mu A, I_C = 0$	-5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = -50V, I_E = 0$	-	-	-10	nA
		$V_{CB} = -50V, I_E = 0, T_A = 125^\circ C$	-	-	-10	μA
Collector Cut-off Current	I_{CEX}	$V_{CE} = -30V, V_{EB(OFF)} = -0.5V$	-	-	-50	nA
Base Cut-off Current	I_{BL}	$V_{CE} = -30V, V_{EB(OFF)} = -0.5V$	-	-	-50	nA
DC Current Gain	h_{FE}	$V_{CE} = -10V, I_C = -0.1mA$	75	-	-	-
		$V_{CE} = -10V, I_C = -1mA$	100	-	-	-
		$V_{CE} = -10V, I_C = -10mA$	100	-	-	-
		$V_{CE} = -10V, I_C = -150mA$	100	-	300	-
		$V_{CE} = -10V, I_C = -500mA$	50	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -150mA, I_B = -15mA$	-	-	-0.4	V
		$I_C = -500mA, I_B = -50mA$	-	-	-1.6	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -150mA, I_B = -15mA$	-	-	-1.3	V
		$I_C = -500mA, I_B = -50mA$	-	-	-2.6	V
Output Capacitance	C_{OBO}	$V_{CB} = -10V, I_E = 0, f = 100MHz$	-	-	8	pF
Input Capacitance	C_{IBO}	$I_C = 0, V_{EB} = -2V, f = 100MHz$	-	-	30	pF
Transition Frequency	f_T	$I_C = -50mA, V_{CE} = -20V$ $f = 100MHz$	200	-	-	MHZ
Delay Time	t_d	$V_{CC} = -30V$	-	-	10	ns
Rise Time	t_r	$I_C = -150mA, I_{B1} = -15mA$	-	-	40	ns
Storage Time	t_s	$V_{CC} = -6V, I_C = -150mA$	-	-	225	ns
Fall Time	t_f	$I_{B1} = I_{B2} = -15mA$	-	-	60	ns



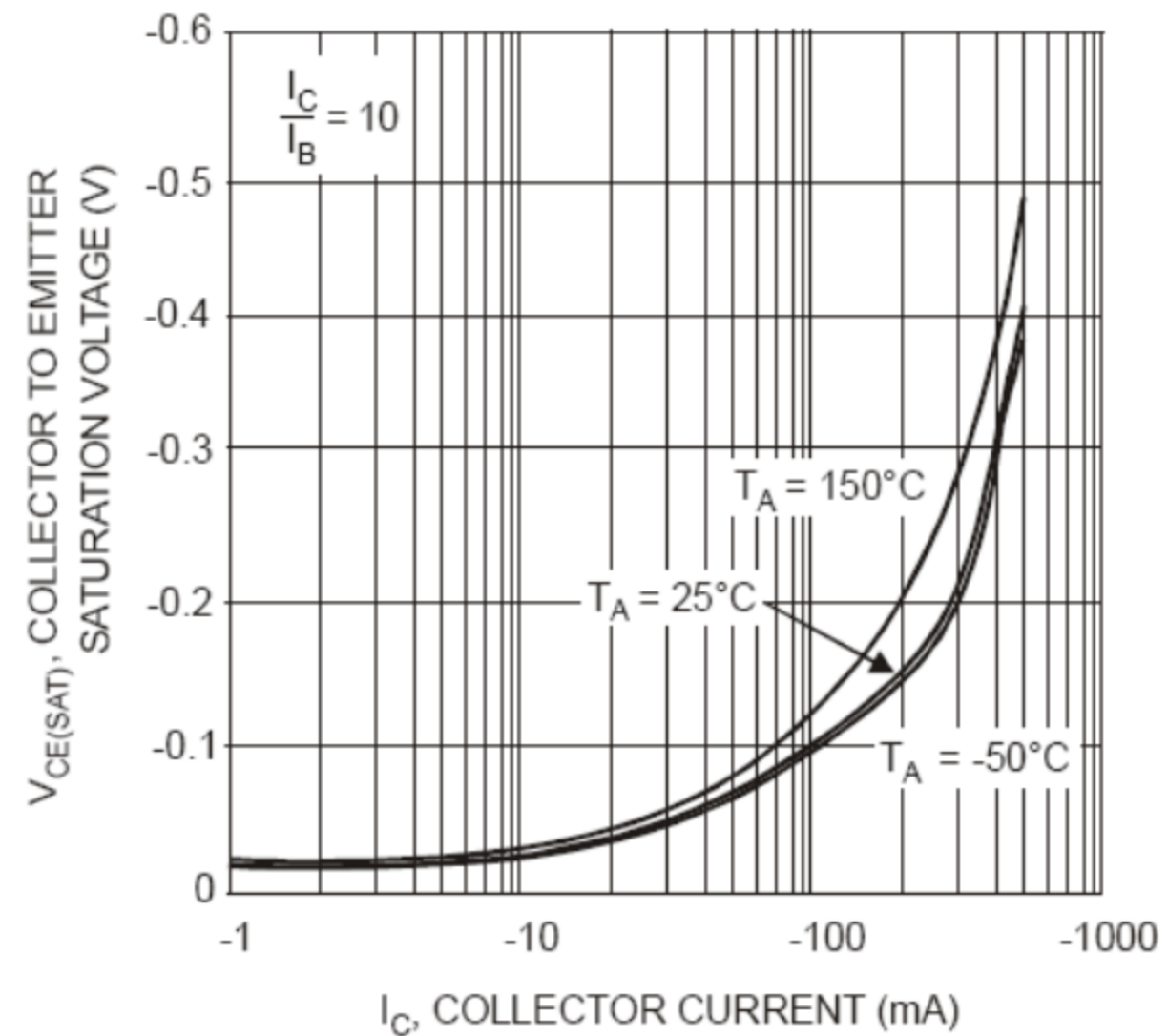
I_C , COLLECTOR CURRENT (mA)
Fig. 1 Gain Bandwidth Product vs. Collector Current



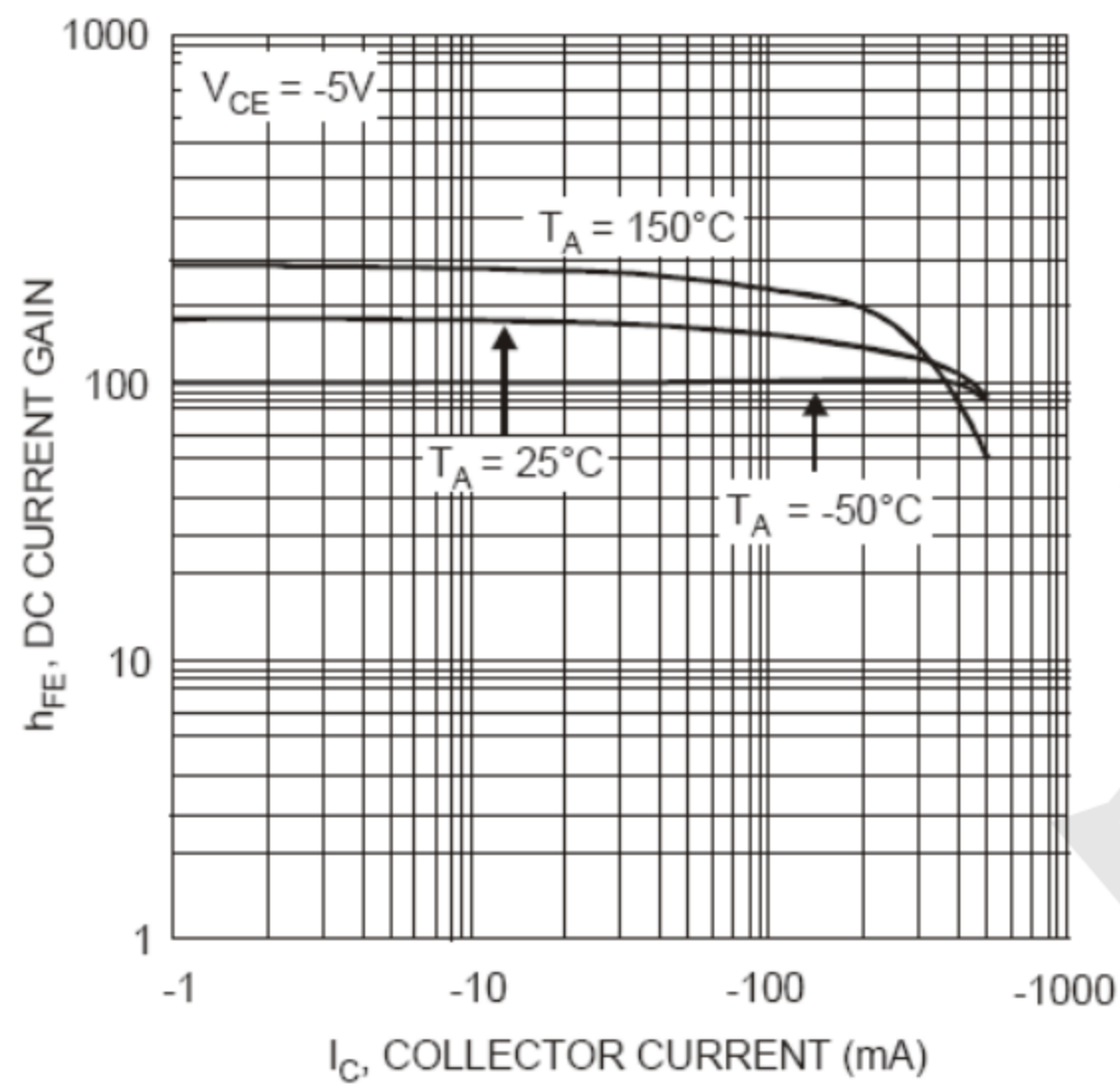
V_R , REVERSE VOLTAGE (V)
Fig. 2, Typical Capacitance Characteristics



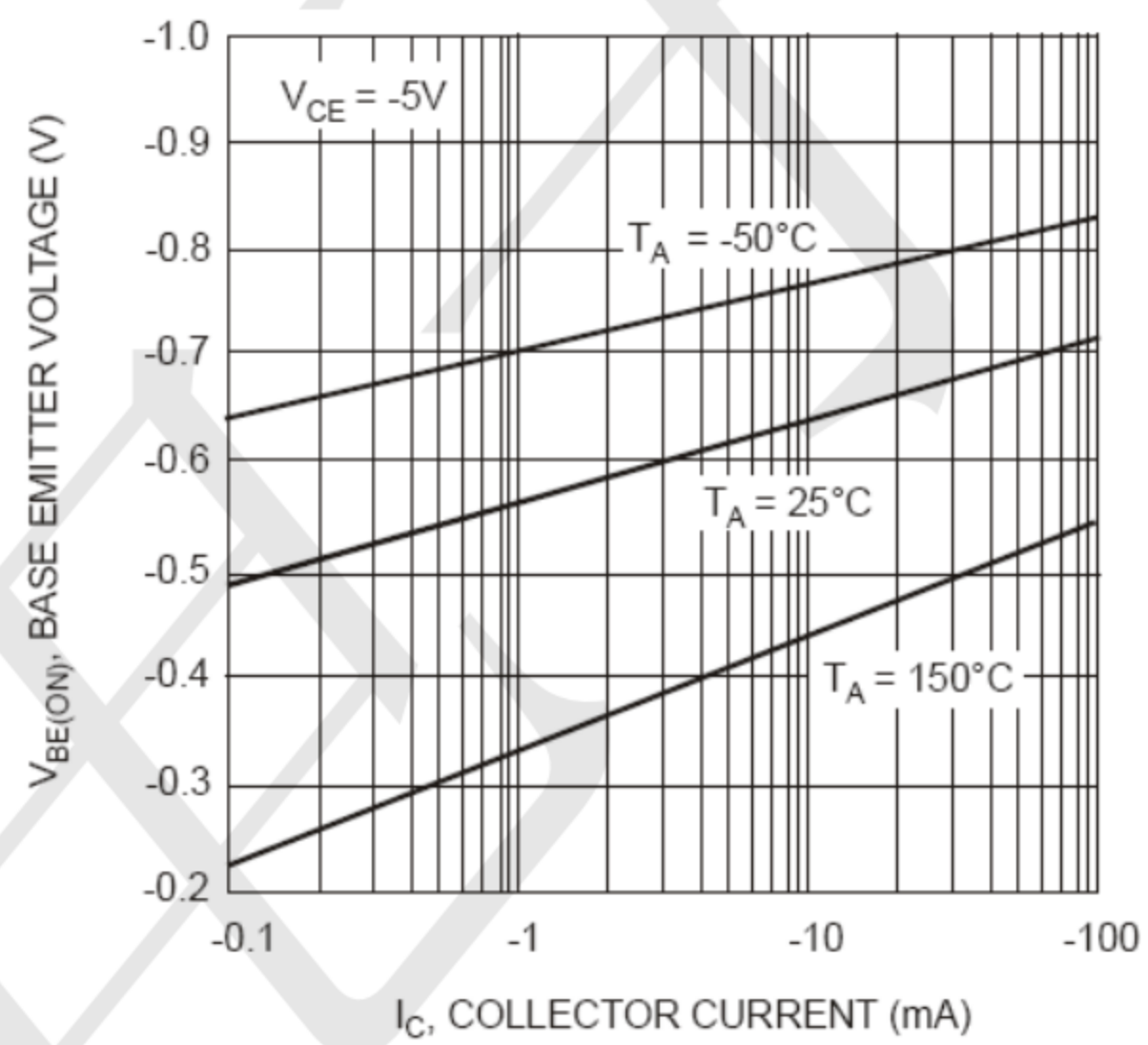
I_B , BASE CURRENT (mA)
Fig. 3, Typical Collector Saturation Region



I_C , COLLECTOR CURRENT (mA)
Fig. 4, Collector-Emitter Saturation Voltage vs. Collector Current



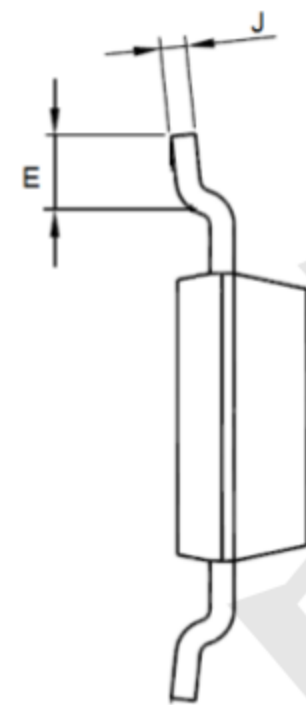
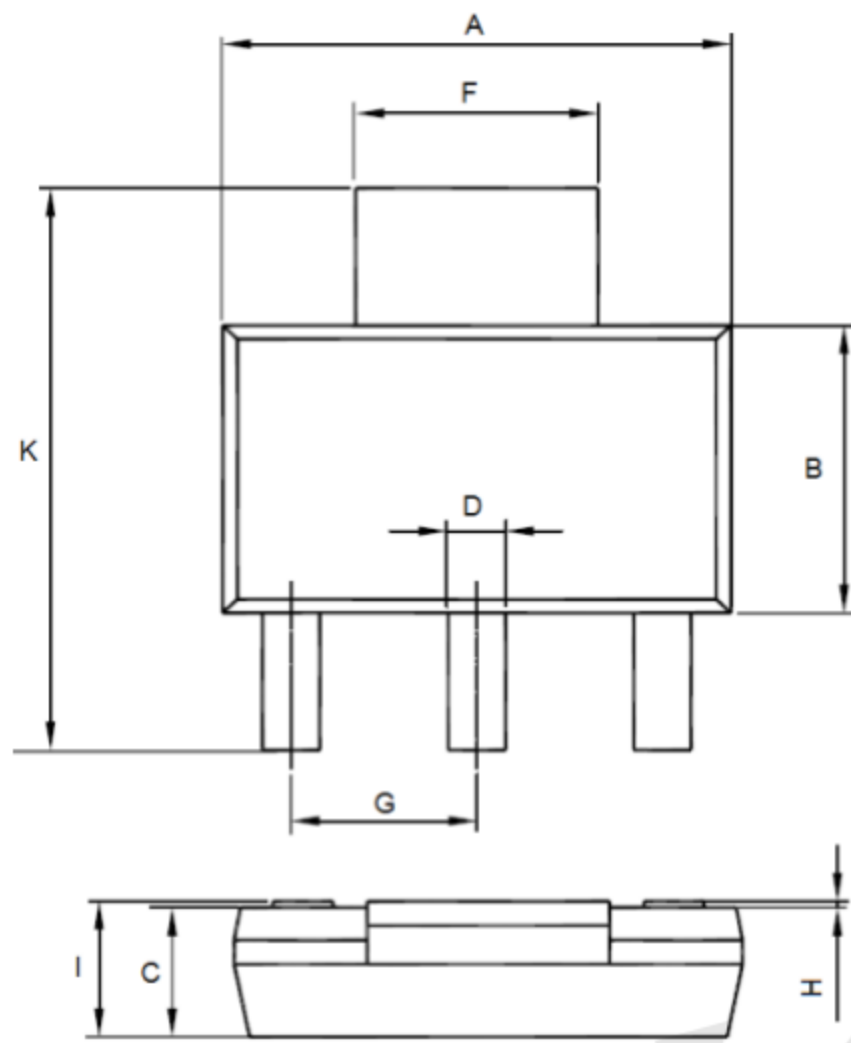
I_C , COLLECTOR CURRENT (mA)
Fig. 5, DC Current Gain vs Collector Current



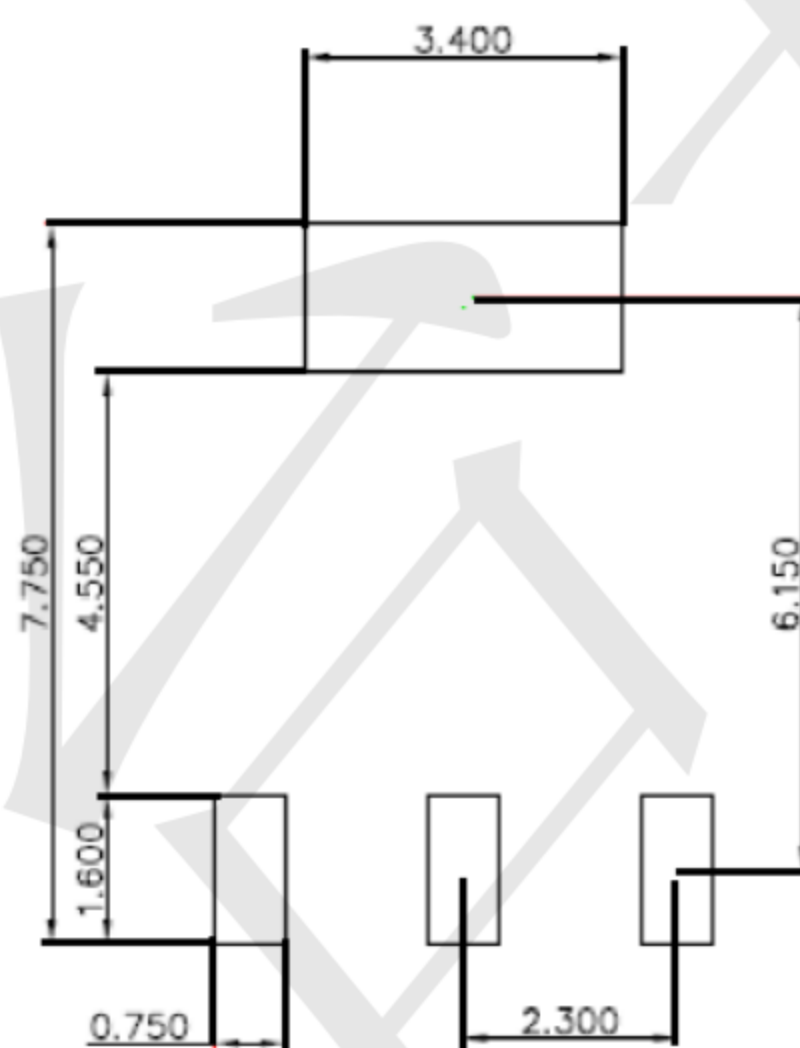
I_C , COLLECTOR CURRENT (mA)
Fig. 6, Base-Emitter Voltage vs. Collector Current



Outline Drawing - SOT223



SOT-223		
Dim	Min	Max
A	6.10	6.50
B	3.30	3.70
C	1.50	1.70
D	0.66	0.82
E	0.90	1.15
F	2.90	3.10
G	2.20	2.40
H	0.02	0.10
I	1.52	1.80
J	0.20	0.40
K	6.70	7.30



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