

Features

- Low saturation

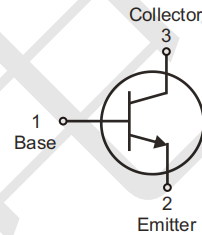
Mechanical data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208

SOT23



Circuit Diagram



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

Parameter	Symbol	Value	Unit
Collector-Base Voltage	V _{CB0}	80	V
Collector-Emitter Breakdown Voltage	V _{CEO}	60	V
Emitter-Base Breakdown Voltage	V _{EBO}	5	V
Collector Current (Continuous)	I _c	1	A

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

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = 100\mu A, I_E = 0$	80	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = 10mA, I_B = 0$	60	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E = 100\mu A, I_C = 0$	5	-	-	V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 60V, I_E = 0$	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	$V_{EB} = 4V, I_C = 0$	-	-	0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = 5V, I_C = 1mA$	100	-	-	-
		$V_{CE} = 5V, I_C = 500mA$	100	-	300	-
		$V_{CE} = 5V, I_C = 1A$	80	-	-	-
		$V_{CE} = 5V, I_C = 2A$	30	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 0.5A, I_B = 0.05A$	-	-	0.25	V
		$I_C = 1A, I_B = 0.1A$	-	-	0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = 1A, I_B = 0.1A$	-	-	1.1	V
Base-emitter On Voltage	$V_{BE(on)}$	$I_C = 1A, V_{CE} = 5V$	-	-	1.0	V
Output Capacity	C_{ob}	$V_{CB} = 10V, f = 1MHz$	-	-	10	pF
Current-Gain—Bandwidth Product	f_T	$I_C = 0.05A, V_{CE} = 10V$ $f = 100MHz$	150	-	-	MHz

Typical Performance Characteristics (T = 25°C unless otherwise Specified)

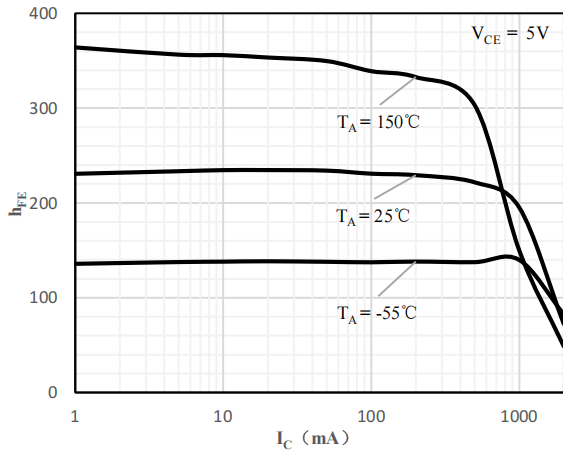


Fig 1 h_{FE} vs. I_C

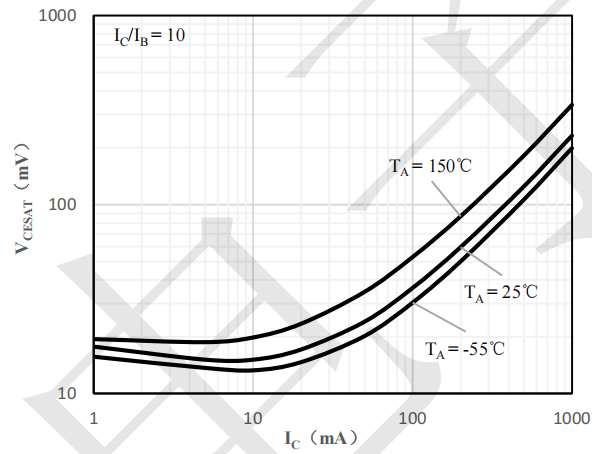


Fig 2 $V_{CE(sat)}$ vs. I_C

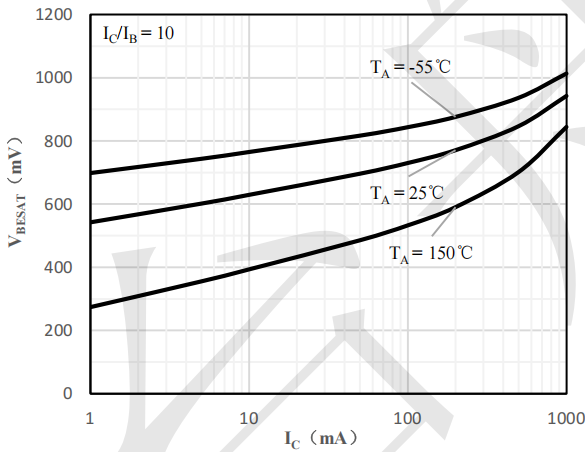


Fig 3 $V_{BE(sat)}$ vs. I_C

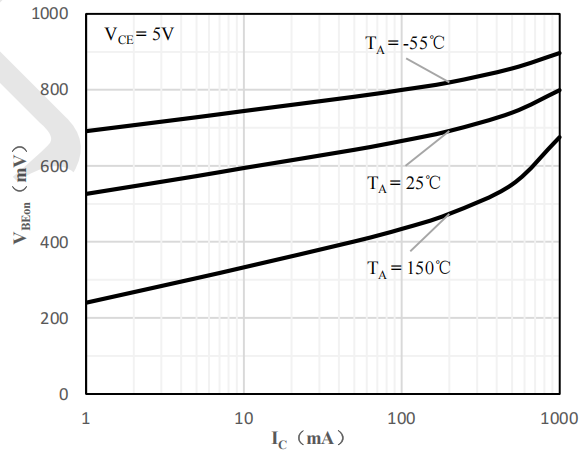
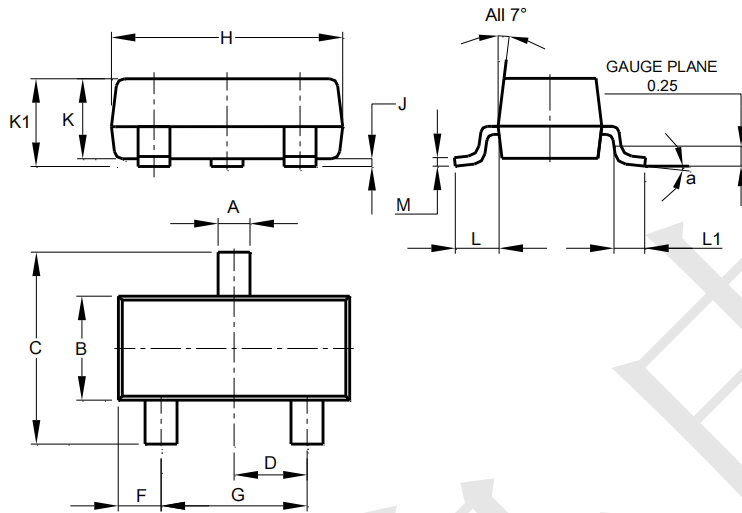


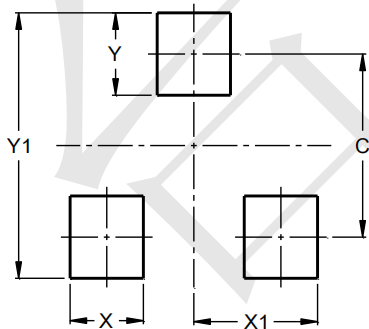
Fig 4 $V_{BE(on)}$ vs. I_C

Outline Drawing - SOT23



SOT23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.890	1.00	0.975
K1	0.903	1.10	1.025
L	0.45	0.61	0.55
L1	0.25	0.55	0.40
M	0.085	0.150	0.110
a	0°	8°	--
All Dimensions in mm			

Land Pattern - SOT23



Dimensions	Value (in mm)
C	2.0
X	0.8
X1	1.35
Y	0.9
Y1	2.9