

RoHS Compliant Product

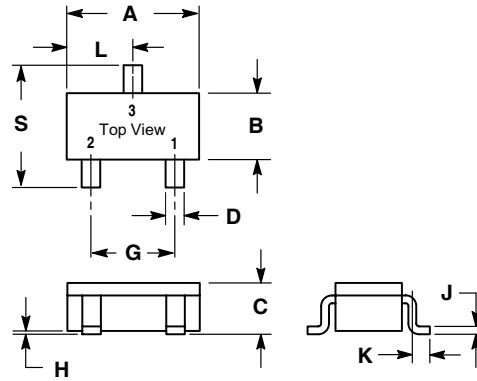
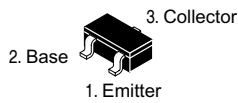
**FEATURES**

High Current

Low  $V_{CE(sat)} - V_{CE(sat)} \leq 250\text{mV}$  at  $I_C = 200\text{mA}/I_B = 10\text{mA}$

**MARKING CODE**

BX



SOT-523		
Dim	Min	Max
A	1.50	1.70
B	0.78	0.82
C	0.80	0.82
D	0.28	0.32
G	0.90	1.10
H	0.00	0.10
J	0.10	0.20
K	0.35	0.41
L	0.49	0.51
S	1.50	1.70
All Dimension in mm		

**Maximum Ratings** ( $T_a = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-base voltage	$V_{CB0}$	15	V
Collector-emitter voltage	$V_{CEO}$	12	V
Emitter-base voltage	$V_{EB0}$	6	V
Collector current (continuous)	$I_C$	0.5	A
Collector power dissipation	$P_C$	0.15	W
Junction temperature	$T_j$	-55~+150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55~+150	$^\circ\text{C}$

**Electrical Characteristics** ( $T_{amb} = 25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CB0}$	15			V	$I_C = 10\ \mu\text{A}, I_E = 0$
Collector-emitter breakdown voltage	$BV_{CEO}$	12			V	$I_C = 1\text{mA}, I_B = 0$
Emitter-base breakdown voltage	$BV_{EB0}$	6			V	$I_E = 10\ \mu\text{A}, I_C = 0$
Collector cutoff current	$I_{CB0}$			0.1	$\mu\text{A}$	$V_{CB} = 15\text{V}, I_E = 0$
Emitter cutoff current	$I_{EB0}$			0.1	$\mu\text{A}$	$V_{EB} = 6\text{V}, I_C = 0$
DC current gain	$h_{FE}$	270		680		$V_{CE} = 2\text{V}, I_C = 10\text{mA}$
Collector-emitter saturation voltage	$V_{CE(sat)}$			0.25	V	$I_C = 200\text{mA}, I_B = 10\text{mA}$
Transition frequency	$f_r$		320		MHz	$V_{CE} = 2\text{V}, I_C = 10\text{mA}, f = 100\text{MHz}$
Collector Output capacitance	$C_{ob}$		7.5		pF	$V_{CB} = 10\text{V}, I_E = 0, f = 1\text{MHz}$

● **Electrical Characteristic Curves**

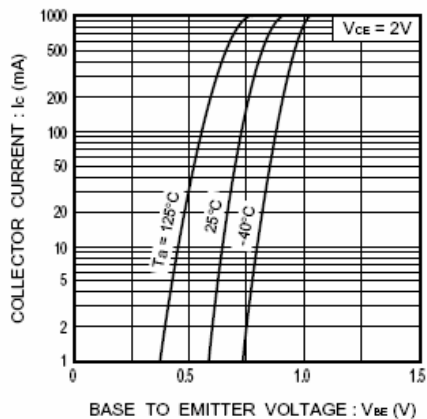


Fig.1 Grounded emitter propagation characteristics

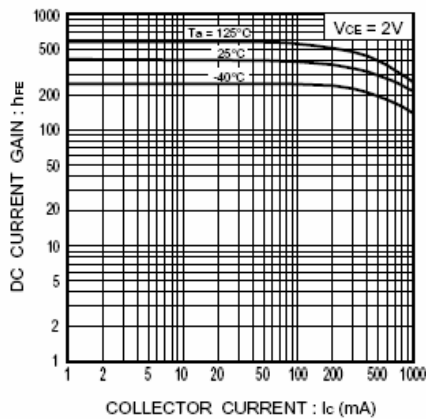


Fig.2 DC current gain vs. collector current

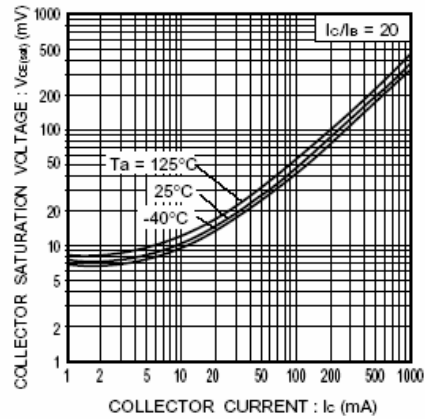


Fig.3 Collector-emitter saturation voltage vs. collector current ( I )

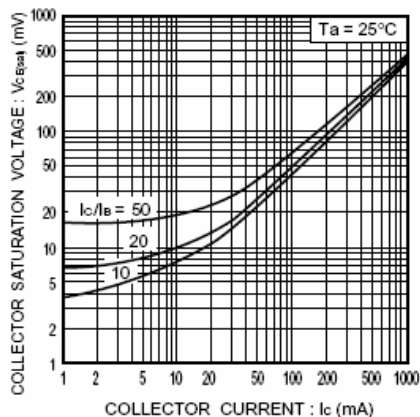


Fig.4 Collector-emitter saturation voltage vs. collector current ( II )

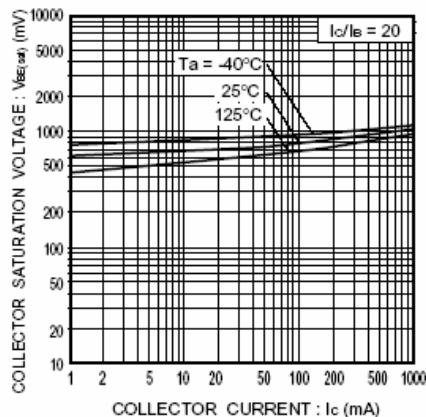


Fig.5 Base-emitter saturation voltage vs. collector current

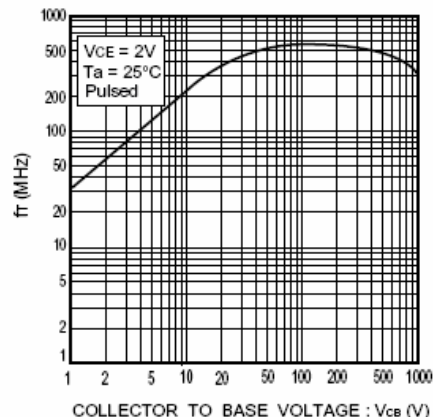


Fig.6 Collector output capacitance Emitter input capacitance vs. base voltage

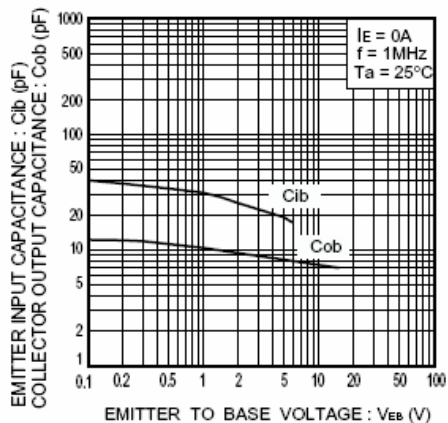


Fig.7 Collector output capacitance vs collector-base voltage Emitter input capacitance vs emitter-base voltage