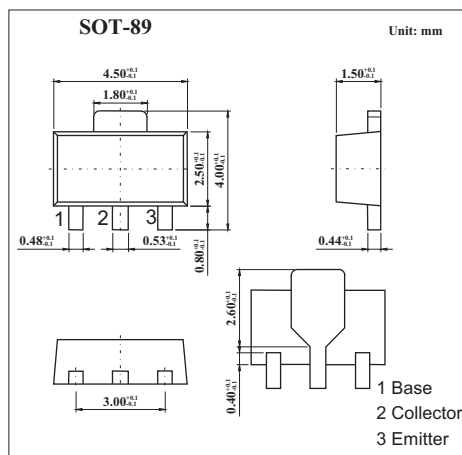


## 2SB1561-Q

### Features

- Collector Current Capability  $I_C = -2A$
- Collector Emitter Voltage  $V_{CE0} = -60V$
- Low saturation Voltage typically
- $V_{CE(SAT)} = -0.15V$  at  $I_C/I_B = -1A/-50mA$



### Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CB0}$	-60	V
Collector - Emitter Voltage	$V_{CE0}$	-60	
Emitter - Base Voltage	$V_{EB0}$	-6	
Collector Current - Continuous	$I_C$	-0.5	A
	$I_{CP}$	-6	
Collector Power Dissipation	$P_C$	0.5	W
	$P_{CM}$	2	
Junction Temperature	$T_J$	150	
Storage Temperature range	$T_{stg}$	-55 to 150	

### Electrical Characteristics $T_a = 25$

Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CB0}$	$I_C = -50 \mu A, I_E = 0$	-60			V
Collector- emitter breakdown voltage	$V_{CE0}$	$I_C = -1 mA, I_B = 0$	-60			
Emitter - base breakdown voltage	$V_{EB0}$	$I_E = -50 \mu A, I_C = 0$	-6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -50 V, I_E = 0$			-100	nA
Collector- emitter cut-off current	$I_{CEO}$	$V_{CB} = -48 V, I_E = 0$			-700	
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5V, I_C = 0$			-100	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -50mA$		-0.15	-0.35	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1A, I_B = -50mA$			-1.2	
DC current gain	$h_{FE(1)}$	$V_{CE} = -2V, I_C = -0.5A$	120		270	
	$h_{FE(2)}$	$V_{CE} = -2V, I_C = -1.5A$	45			
Output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0A, f = 1MHz$		23		pF
Transition frequency	$f_T$	$V_{CE} = -2V, I_E = -0.5A, f = 100MHz$		200		MHz

### Marking

Marking	BL/QN
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# 2SB1561-Q

## Typical Characteristics

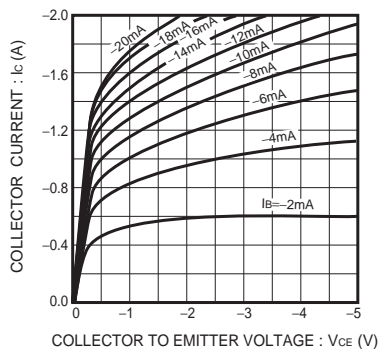


Fig.1 Grounded emitter output characteristics

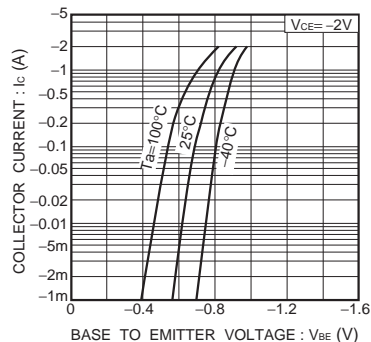


Fig.2 Grounded emitter propagation characteristics

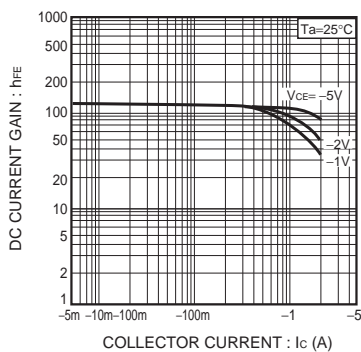


Fig.3 DC current gain vs. collector current ( I )

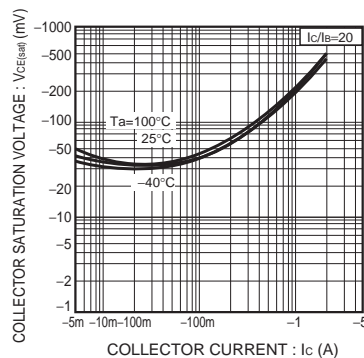


Fig.4 Collector-emitter saturation voltage vs. collector current ( I )

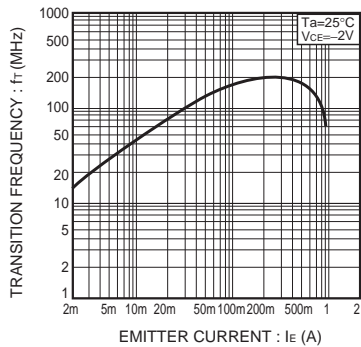


Fig.5 Gain bandwidth product vs. emitter current

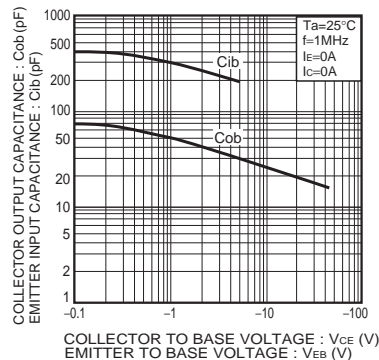


Fig.6 Collector output capacitance vs. collector-base voltage  
Emitter input capacitance vs. emitter-base voltage

# 2SB1561-Q

## Typical Characteristics

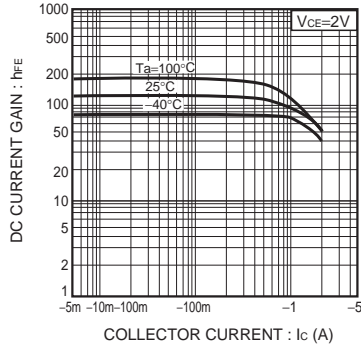


Fig.3 DC current gain vs. collector current ( I )

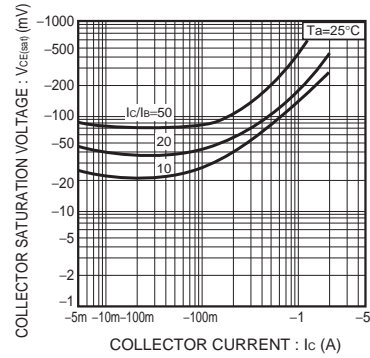


Fig.6 Collector-emitter saturation voltage vs. collector current ( II )

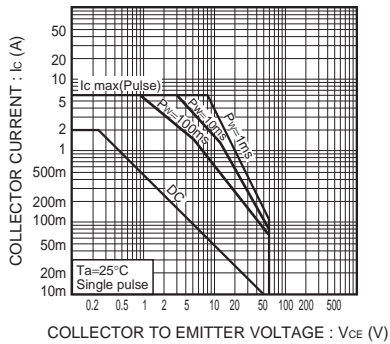


Fig.9 Safe operating area