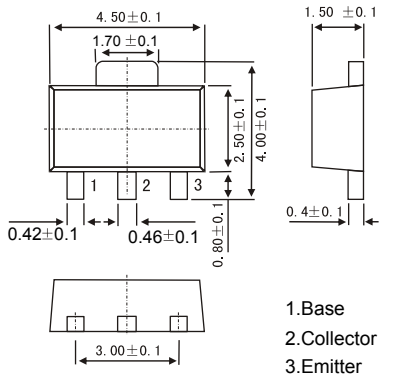
2SD2211

NPN Transistors

■ Features

- Collector Current Capability I_C=1.5A
- Collector Emitter Voltage V_{CEO}=160V

SOT-89 Unit:mm



1.Base
2.Collector
3.Emitter

■ Absolute Maximum Ratings Ta = 25℃

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	160	V
Collector - Emitter Voltage	V_{CEO}	160	
Emitter - Base Voltage	V_{EBO}	5	
Collector Current - Continuous	I_C	1.5	A
Collector Current - Pulse	I_{CP}	3	
Collector Power Dissipation (Note.1)	P_C	0.5	W
		2	
Junction Temperature	T_J	150	℃
Storage Temperature Range	T_{stg}	-55 to 150	

Note.1 :Mounted on a 40×40× 0.7mm ceramic substrate

■ Electrical Characteristics Ta = 25℃

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	I_C= 100 μA, I_E= 0	160			V
Collector- emitter breakdown voltage	V_{CEO}	I_C= 1 mA, I_B= 0	160			
Emitter - base breakdown voltage	V_{EBO}	I_E= 100 μ A, I_C= 0	5			
Collector-base cut-off current	I_{CBO}	V_{CB}= 120 V , I_E= 0			1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V , I_C=0			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=1 A, I_B=100mA			2	V
Base - emitter saturation voltage	$V_{BE(sat)}$	I_C=1 A, I_B=100mA			1.5	
DC current gain	h_{FE}	V_{CE}= 5V, I_C=100mA	120		390	
Collector output capacitance	C_{ob}	V_{CB}= 10V,I_E=0, f=1MHz		20		pF
Transition frequency	f_T	V_{CE}= 5V, I_E=-100mA ,f=30MHz		80		MHz

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■ Typical Characterisitics

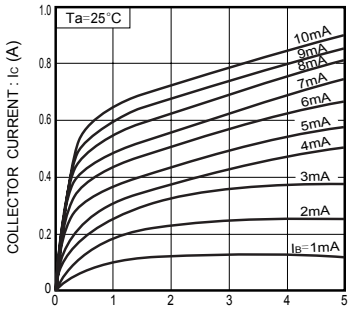

Fig.1 Ground emitter output characteristics

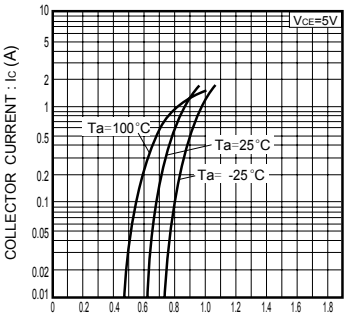

Fig.2 Ground emitter propagation characteristics

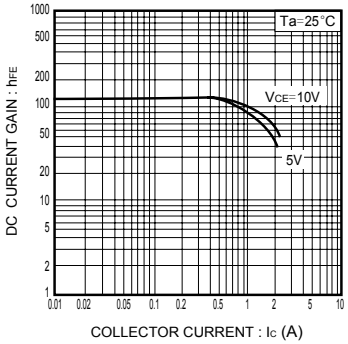

Fig.3 DC current gain vs. collector current (Ⅰ)

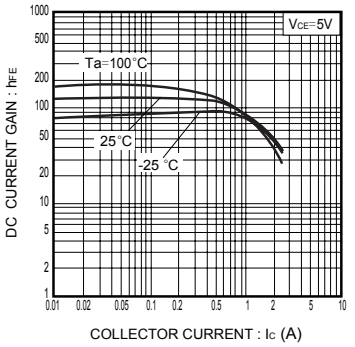

Fig.4 DC current gain vs. collector current (Ⅰ)Ⅰ

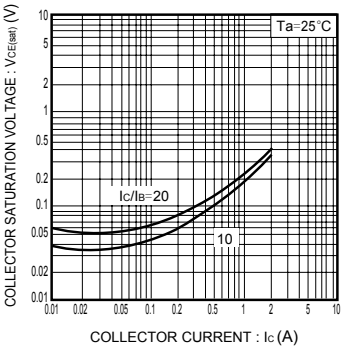

Fig.5 Collector-emitter saturation voltage vs. collector current

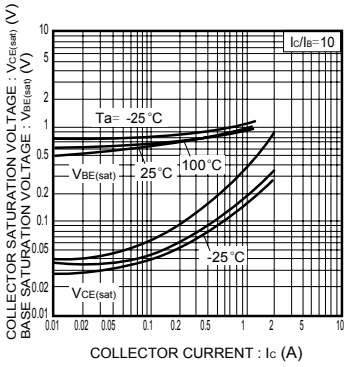

Fig.6 Collector-emitter saturation voltage
Base-emitter saturation voltage vs. collector current

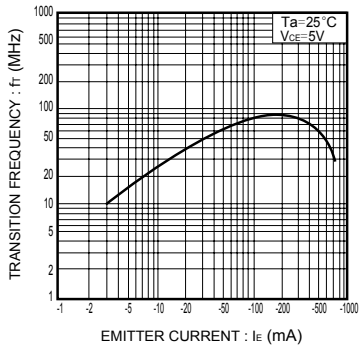

Fig.7 Gain bandwidth products vs. emitter current

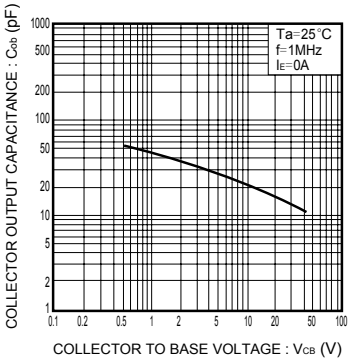

Fig.8 Collector output capacitance vs. collector-base voltage

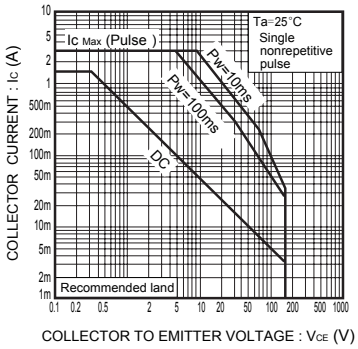

Fig.9 Safe operating area (2SD2211)

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