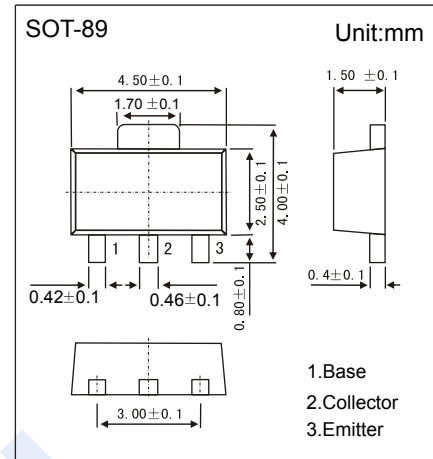
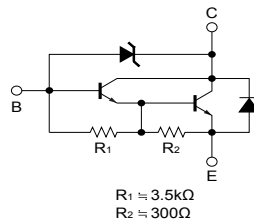


NPN Transistors

2SD2212

■ Features

- Collector Current Capability $I_C=2A$
- Collector Emitter Voltage $V_{CEO}=50V$

■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	50	V
Collector - Emitter Voltage	V_{CEO}	50	
Emitter - Base Voltage	V_{EBO}	6	
Collector Current - Continuous	I_C	2	A
Collector Current - Pulse	I_{CP}	3	
Collector Power Dissipation (Note.1)	P_C	0.5	W
		2	
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to 150	

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

■ Electrical Characteristics $T_a = 25^\circ C$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = 100 \mu A, I_E = 0$	50			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = 5 mA, I_B = 0$	50			
Emitter - base breakdown voltage	V_{EBO}	$I_E = 100 \mu A, I_C = 0$	6			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 40 V, I_E = 0$			1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 5 V, I_C = 0$			3	mA
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 1 A, I_B = 1 mA$			1.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 1 A, I_B = 1 mA$			2	
DC current gain	h_{FE}	$V_{CE} = 2 V, I_C = 1 A$	1000		10000	
Collector output capacitance	C_{ob}	$V_{CB} = 10 V, I_E = 0, f = 1 MHz$		25		pF
Transition frequency	f_T	$V_{CE} = 5 V, I_E = -100 mA, f = 30 MHz$		80		MHz

■ Marking

Marking	DR
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NPN Transistors

2SD2212

■ Typical Characteristics

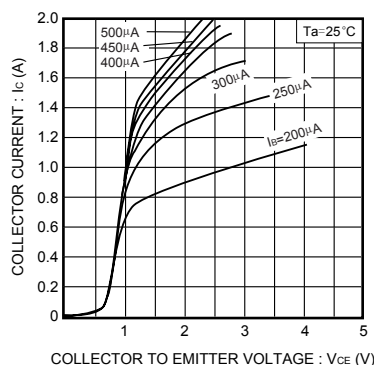


Fig.1 Grounded emitter output characteristics (I)

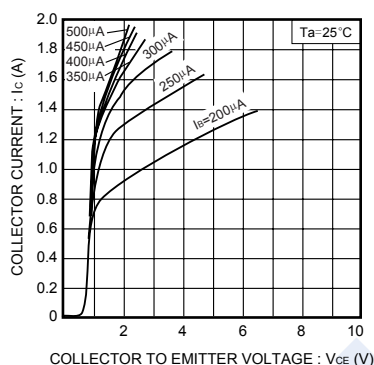


Fig.2 Grounded emitter output characteristics (II)

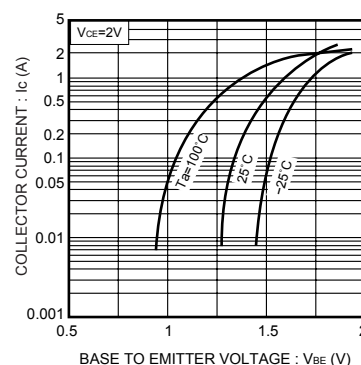


Fig.3 Grounded emitter propagation characteristics

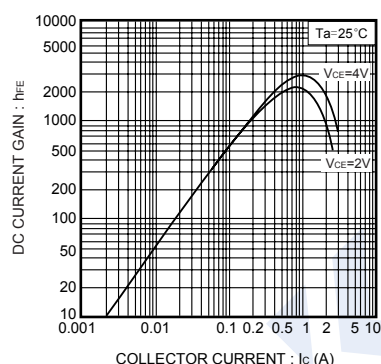


Fig.4 DC current gain vs. collector current (I)

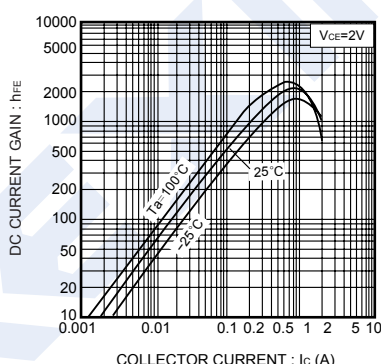


Fig.5 DC current gain vs. collector current (II)

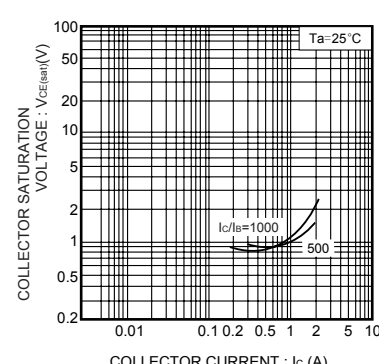


Fig.6 Collector-emitter saturation voltage vs. collector current

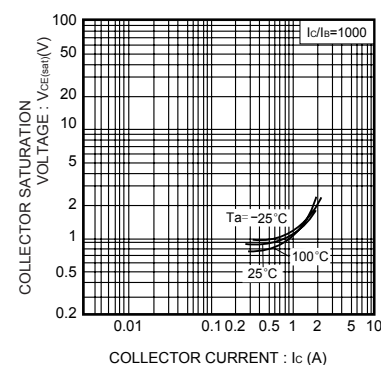


Fig.7 Collector-emitter saturation voltage vs. collector current

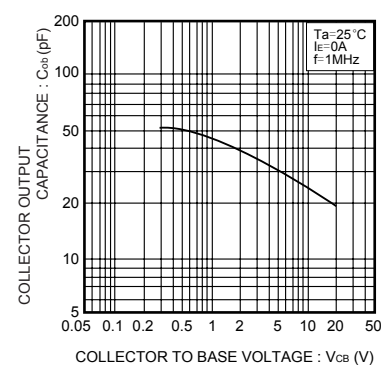


Fig.8 Collector output capacitance vs. collector-base voltage

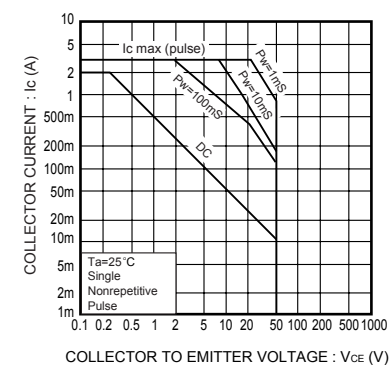


Fig.9 Safe operating area (A. S. O)