

## PNP Transistors

### 2SA2071

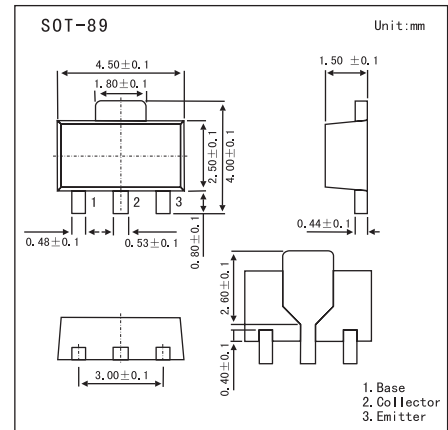
#### Features

High speed switching. ( $T_r$ : Typ. : 20ns at  $I_c = -3A$ )

Low saturation voltage, typically

(Typ. : -200mV at  $I_C = -2A, I_B = -0.2A$ )

Strong discharge power for inductive load and capacitance load.



#### 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	$I_C$	-3	A
	$I_{CP}$	-6	
Collector Power Dissipation	$P_C$	0.5	W
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	$V_{CB0}$	$I_c = -100 \mu A, I_E = 0$	-60			V
Collector-emitter breakdown voltage	$V_{CE0}$	$I_c = -1 mA, I_B = 0$	-60			
Emitter-base breakdown voltage	$V_{EB0}$	$I_E = -100 \mu A, I_C = 0$	-6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -40 V, I_E = 0$			-1.0	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -4 V, I_C = 0$			-1.0	
DC current gain	$h_{FE}$	$V_{CE} = -2V, I_C = -100mA$	120		390	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -200mA$		-0.2	-0.5	V
Collector output capacitance	$C_{ob}$	$V_{CB} = -10V, I_E = 0mA, f = 1MHz$		50		pF
Transition frequency	$f_T$	$V_{CE} = -10V, I_E = 10mA, f = 10MHz$		180		MHz

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■ Typical Characteristics

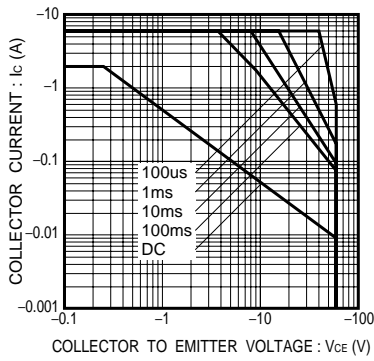


Fig.1 Safe Operating Area

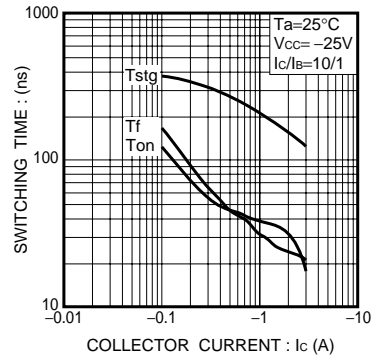


Fig.2 Switching Time

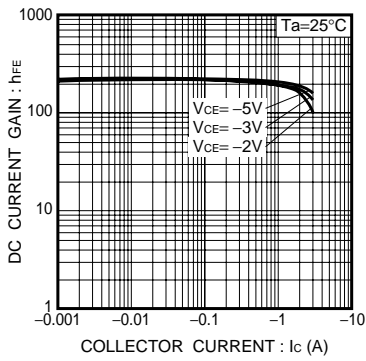


Fig.4 DC Current Gain vs. Collector Current (II)

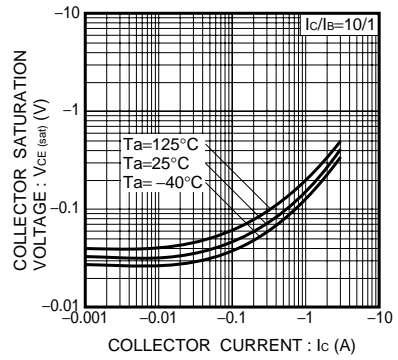


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (I)

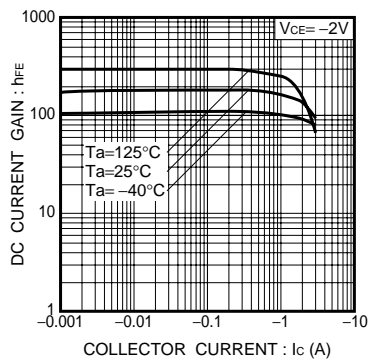


Fig.3 DC Current Gain vs. Collector Current (I)

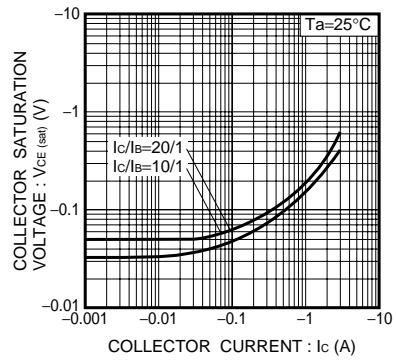


Fig.6 Collector-Emitter Saturation Voltage vs. Collector Current (II)

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### ■ Typical Characteristics

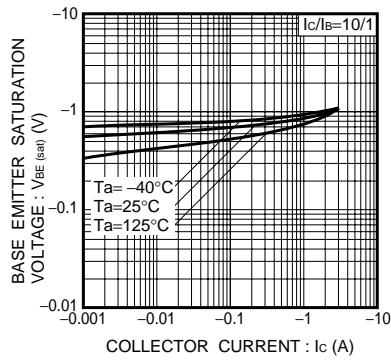


Fig.7 Base-Emitter Saturation Voltage vs. Collector Current

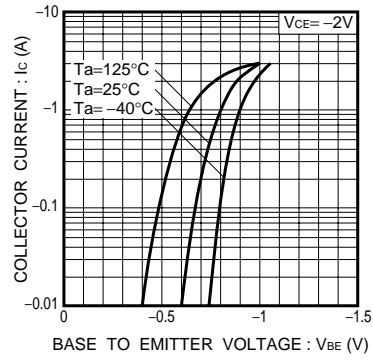


Fig.8 Grounded Emitter Propagation Characteristics

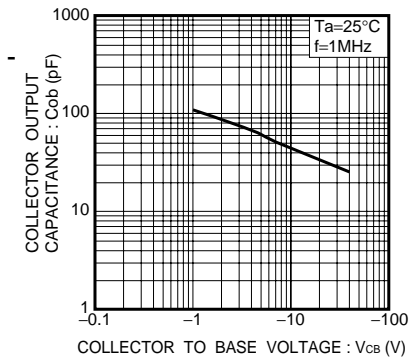


Fig.10 Collector Output Capacitance

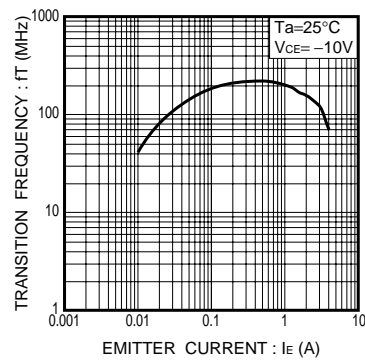


Fig.9 Transition Frequency