

PNP Transistors

2SA2071-Q

■ Features

- Collector Current Capability $I_C = -3A$
- Collector Emitter Voltage $V_{CEO} = -60V$
- High speed switching.
- Complements the 2SC5824

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

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	V_{CBO}	-60	V
Collector - Emitter Voltage	V_{CEO}	-60	
Emitter - Base Voltage	V_{EBO}	-6	
Collector Current - Continuous	I_C	-3	A
Collector Current - Pulse	I_{CP}	-6	
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	

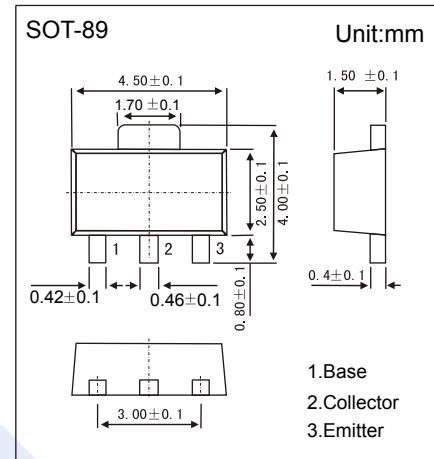
Note.1: Mounted on a 40×40×0.7 (mm) ceramic substrate

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

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CBO}	$I_C = -100 \mu A, I_E = 0$	-60			V
Collector- emitter breakdown voltage	V_{CEO}	$I_C = -1 mA, I_B = 0$	-60			
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}	$V_{EB} = -4 V, I_C = 0$			-1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2 A, I_B = -200 mA$			-0.5	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2 A, I_B = -200 mA$			-1.2	
DC current gain	h_{FE}	$V_{CE} = -2 V, I_C = -100 mA$	120		270	
Turn-on time	t_{on}	$I_C = -3 A, I_{B1} = -300 mA, I_{B2} = 300 mA, V_{CC} = -25 V$		20		ns
Storage time	t_{stg}			150		
Fall time	t_f			20		
Collector output capacitance	C_{ob}	$V_{CB} = -10 V, I_E = 0, f = 1 MHz$		50		pF
Transition frequency	f_T	$V_{CE} = -10 V, I_E = 100 mA, f = 10 MHz$		180		MHz

■ Classification of h_{FE}

Range	120-270
Marking	UN



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■ Typical Characteristics

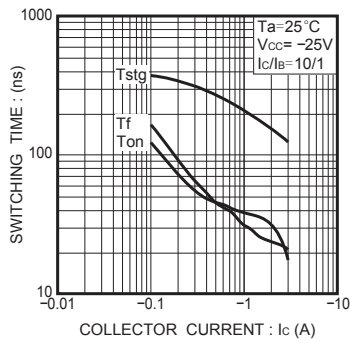


Fig.1 Switching Time

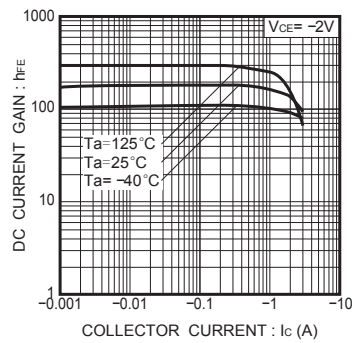


Fig.2 DC Current Gain vs. Collector Current (I)

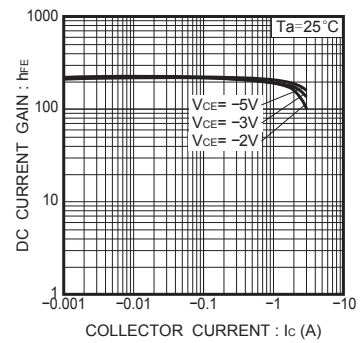


Fig.3 DC Current Gain vs. Collector Current (II)

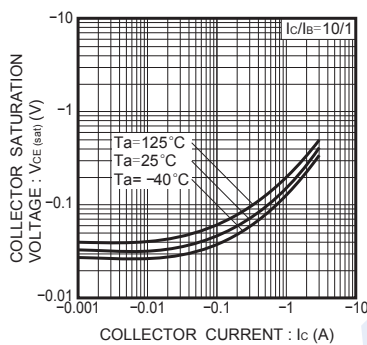


Fig.4 Collector-Emitter Saturation Voltage vs. Collector Current (I)

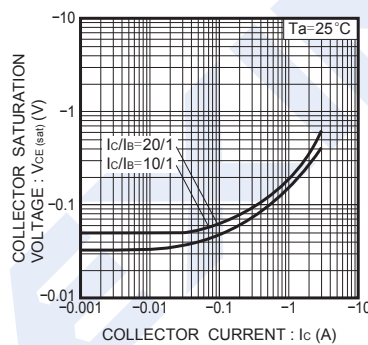


Fig.5 Collector-Emitter Saturation Voltage vs. Collector Current (II)

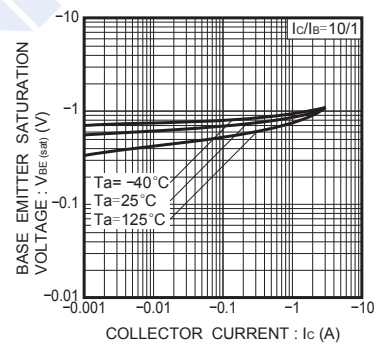


Fig.6 Base-Emitter Saturation Voltage vs. Collector Current

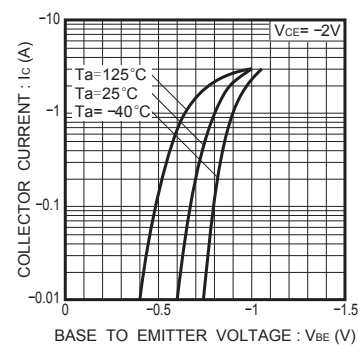


Fig.7 Grounded Emitter Propagation Characteristics

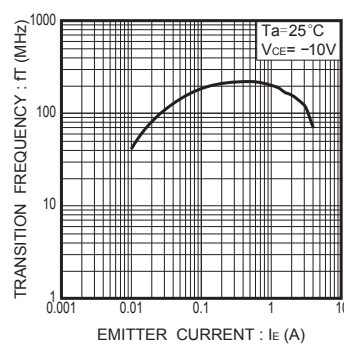


Fig.8 Transition Frequency

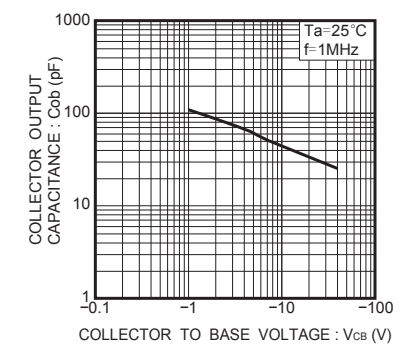


Fig.9 Collector Output Capacitance