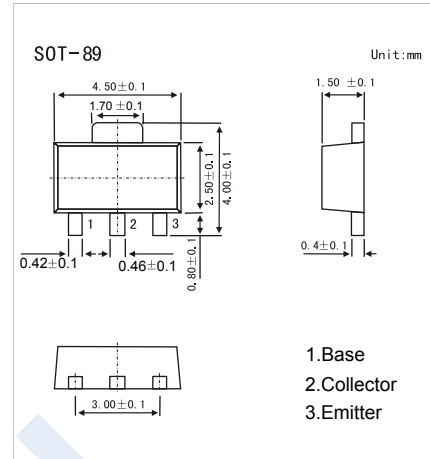


NPN Transistors

2SC5785-HF

■ Features

- High DC current gain: $h_{FE} = 400$ to 1000
- Low collector-emitter saturation voltage
- High-speed switching
- Pb-Free Package May be Available. The G-Suffix Denotes a Pb-Free Lead Finish



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

Parameter	Symbol	Rating	Unit	
Collector - Base Voltage	V_{CB0}	20	V	
Collector - Emitter Voltage	V_{CE0}	10		
Emitter - Base Voltage	V_{EB0}	7		
Collector Current - Continuous	I_C	2	A	
Collector Current - Pulse	I_{CP}	3.5		
Base Current	I_B	200	mA	
Collector Power Dissipation	P_C	$t = 10 \text{ s}$	2	W
		DC	1	
Junction Temperature	T_J	150	$^\circ\text{C}$	
Storage Temperature Range	T_{stg}	-55 to 150		

■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	V_{CB0}	$I_C = 100 \mu\text{A}$, $I_E = 0$	20			V
Collector- emitter breakdown voltage	V_{CE0}	$I_C = 10 \text{ mA}$, $I_B = 0$	10			
Emitter - base breakdown voltage	V_{EB0}	$I_E = 100 \mu\text{A}$, $I_C = 0$	7			
Collector-base cut-off current	I_{CBO}	$V_{CB} = 20 \text{ V}$, $I_E = 0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = 7 \text{ V}$, $I_C = 0$			0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 600 \text{ mA}$, $I_B = 12 \text{ mA}$			0.12	V
Base - emitter saturation voltage	$V_{BE(sat)}$	$I_C = 600 \text{ mA}$, $I_B = 12 \text{ mA}$			1.1	
DC current gain	h_{FE}	$V_{CE} = 2 \text{ V}$, $I_C = 200 \text{ mA}$	400		1000	
		$V_{CE} = 2 \text{ V}$, $I_C = 600 \text{ mA}$	200			
Rise time	t_r	See Figure 1 circuit diagram.		60		ns
Storage time	t_{stg}	$V_{CC} = -6 \text{ V}$, $R_L = 10 \Omega$		215		
Fall time	t_f	$I_{B1} = -I_{B2} = 12 \text{ mA}$		25		

■ Marking

Marking	3E F
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NPN Transistors 2SC5785-HF

■ Typical Characteristics

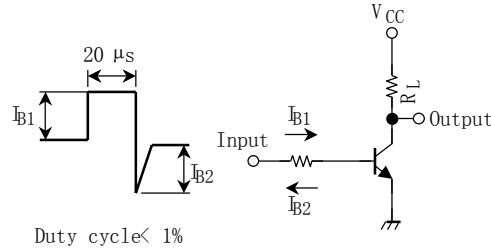
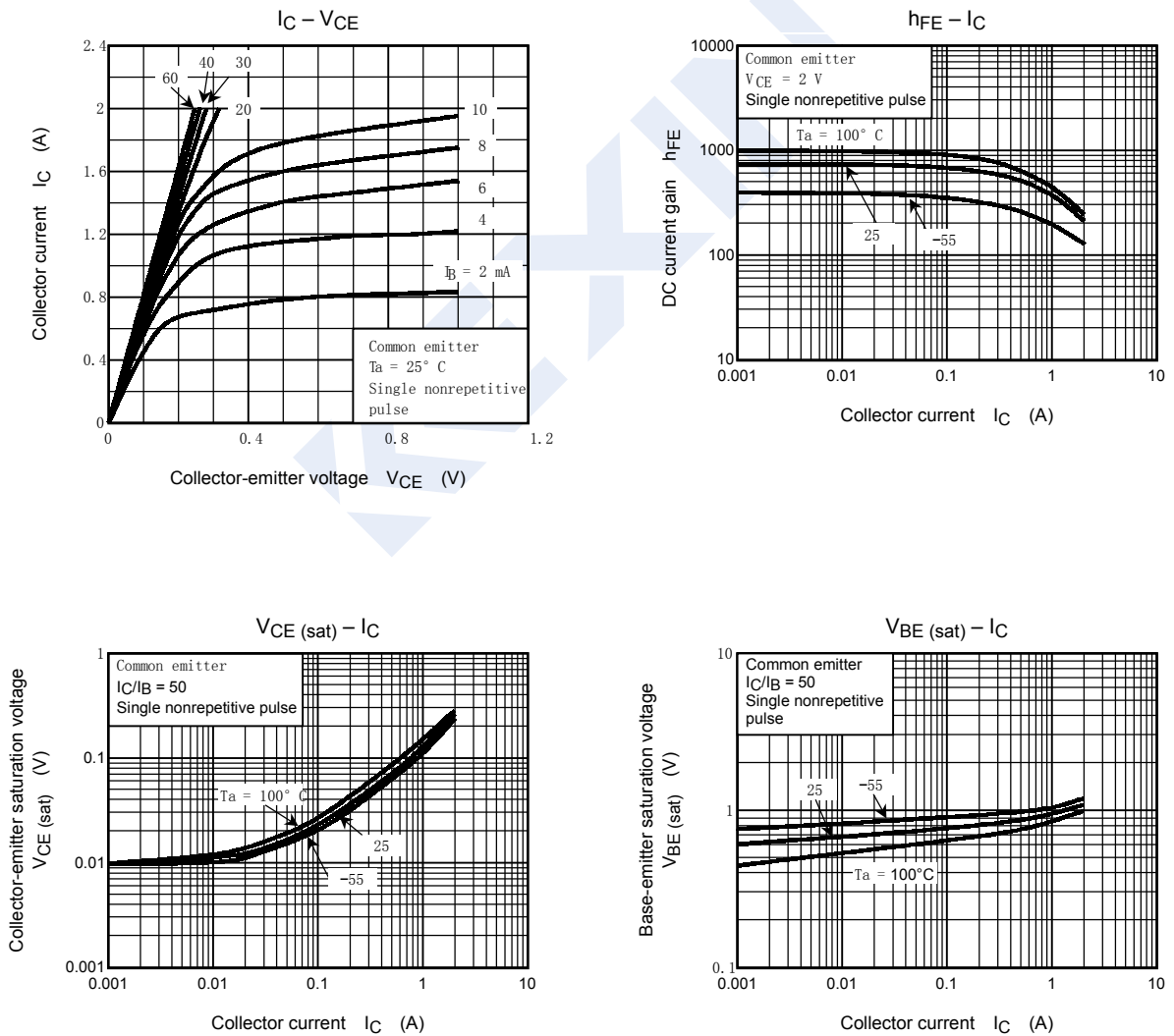


Figure 1 Switching Time Test Circuit & Timing Chart



NPN Transistors

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Typical Characteristics

