

**2SC5607****DC/DC Converter Applications****Applications**

- Relay drivers, lamp drivers, motor drivers, strobes.

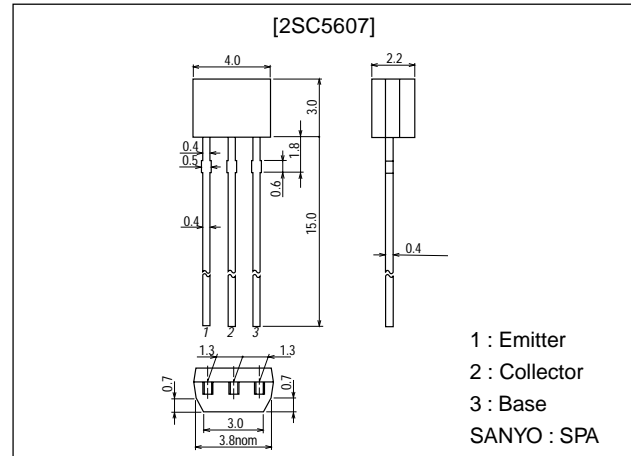
Features

- Adoption of MBIT processes.
- Large current capacitance.
- Low collector-to-emitter saturation voltage.
- High-speed switching.
- High allowable power dissipation.

Package Dimensions

unit:mm

2033A

**Specifications****Absolute Maximum Ratings** at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		15	V
Collector-to-Emitter Voltage	V_{CEO}		10	V
Emitter-to-Base Voltage	V_{EBO}		7	V
Collector Current	I_C		5	A
Collector Current (Pulse)	I_{CP}		9	A
Base Current	I_B		1	A
Collector Dissipation	P_C		0.55	W
Junction Temperature	T_J		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CB0}	$V_{CB}=10\text{V}, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=2\text{V}, I_C=500\text{mA}$	600			
	h_{FE2}	$V_{CE}=2\text{V}, I_C=3\text{A}$	200			
Gain-Bandwidth Product	f_T	$V_{CE}=2\text{V}, I_C=500\text{mA}$		380		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, f=1\text{MHz}$		23		pF

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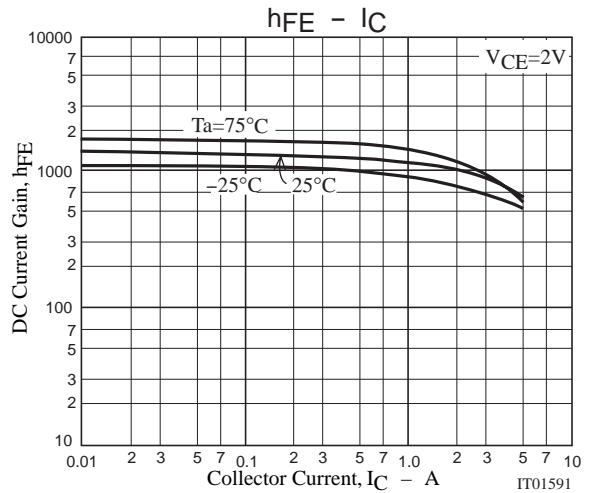
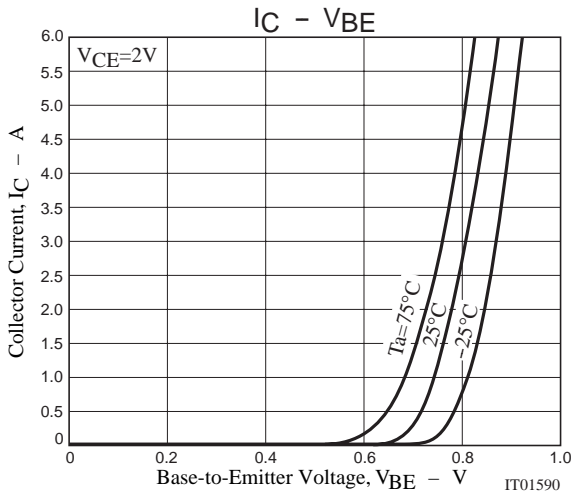
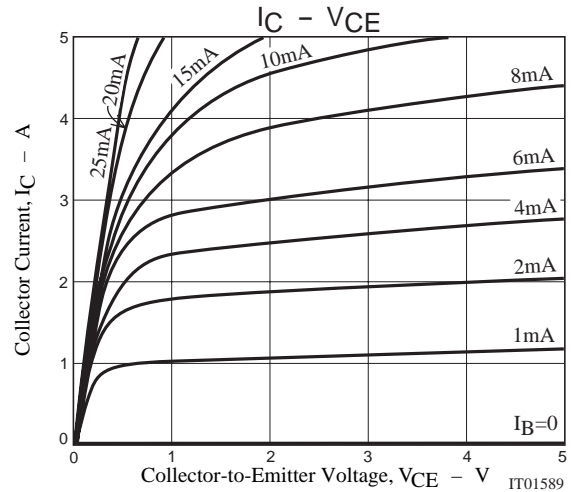
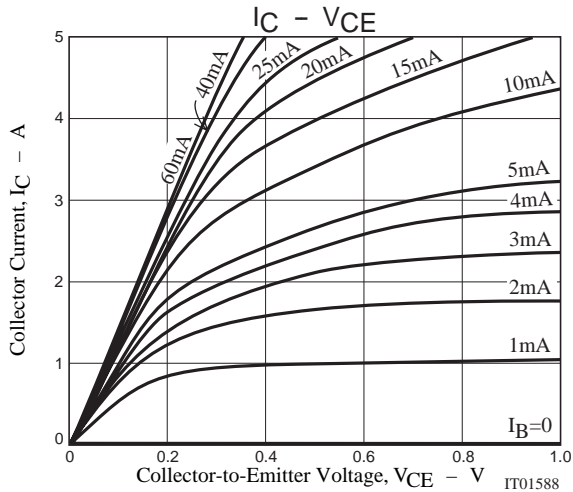
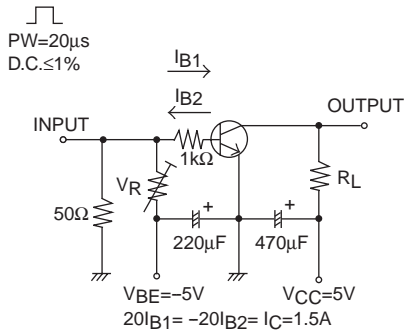
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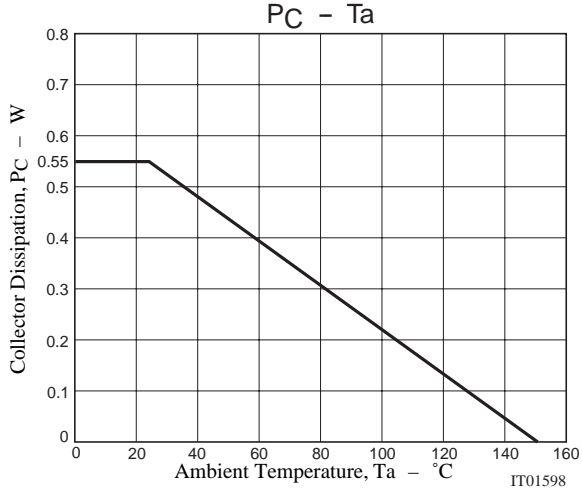
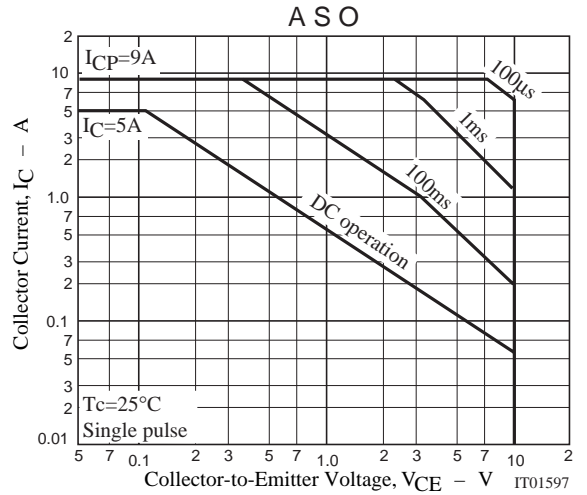
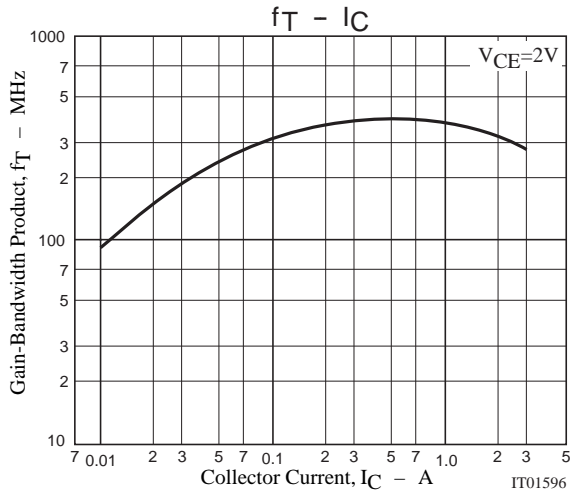
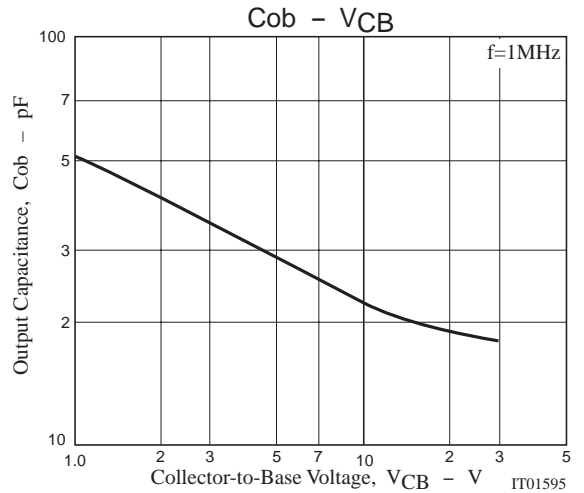
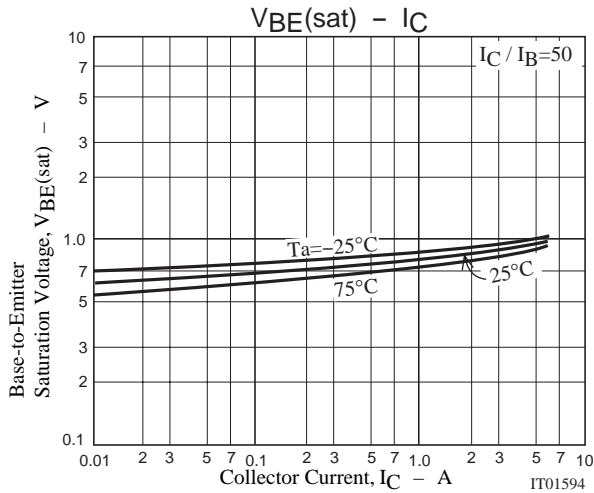
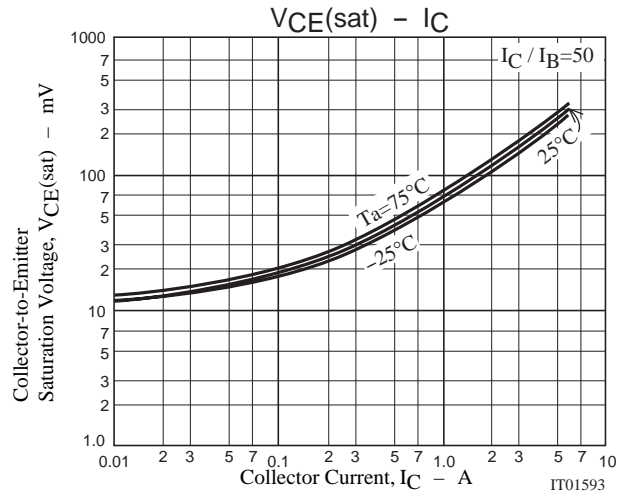
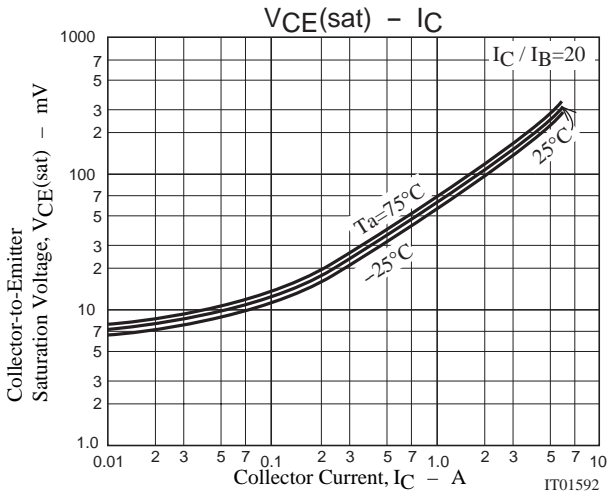
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=1.5A, I_B=30mA$		100	150	mV
	$V_{CE(sat)2}$	$I_C=3A, I_B=60mA$		180	270	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=1.5A, I_B=30mA$		0.85	1.2	V
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	10			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	7			V
Turn-ON Time	t_{on}	See specified Test Circuit		30		ns
Storage Time	t_{stg}	See specified Test Circuit		210		ns
Fall Time	t_f	See specified Test Circuit		11		ns

Switching Time Test Circuit



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