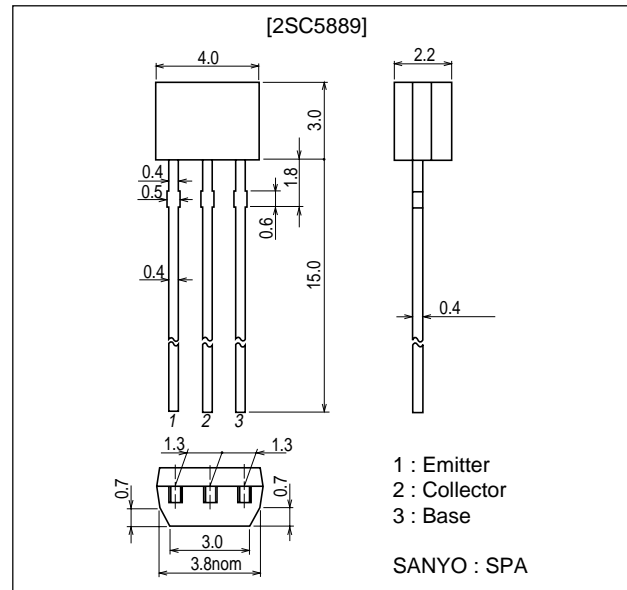


**2SC5889****DC / DC Converter Applications****Applications**

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

Features

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

Package Dimensionsunit : mm
2033A**Specifications****Absolute Maximum Ratings** at Ta=25°C

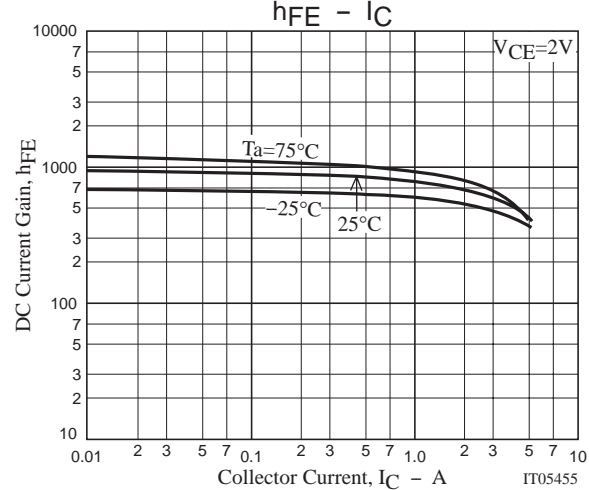
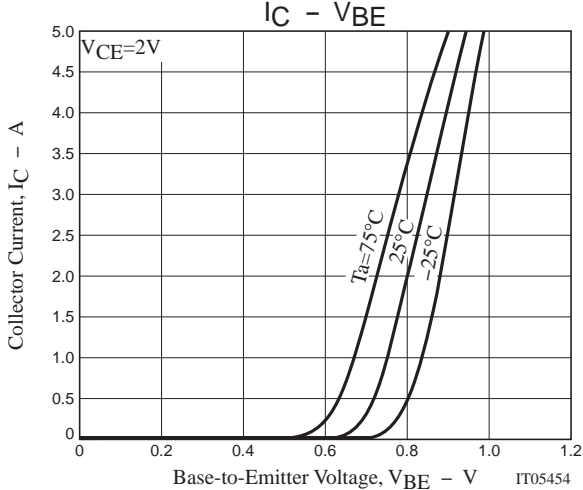
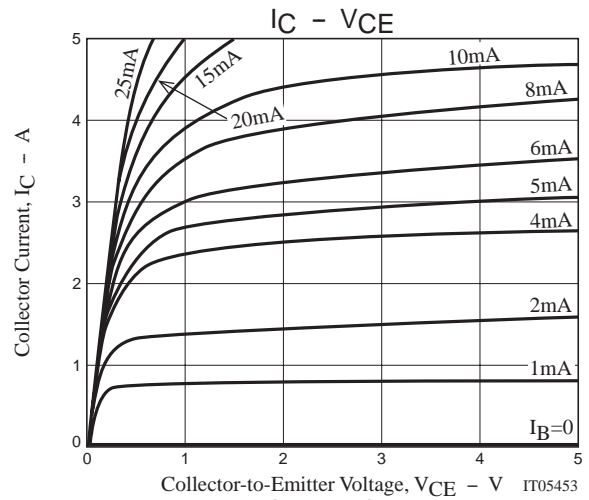
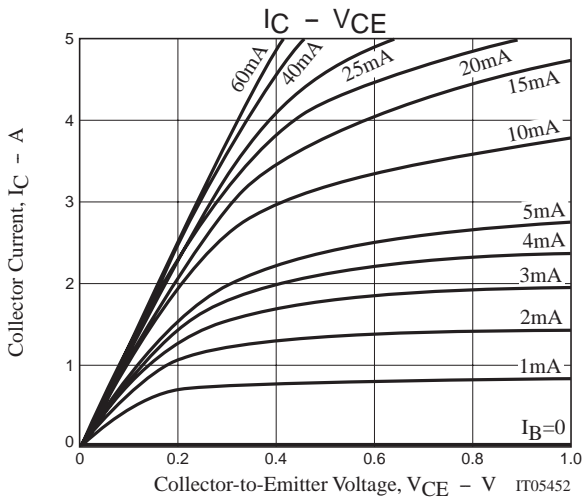
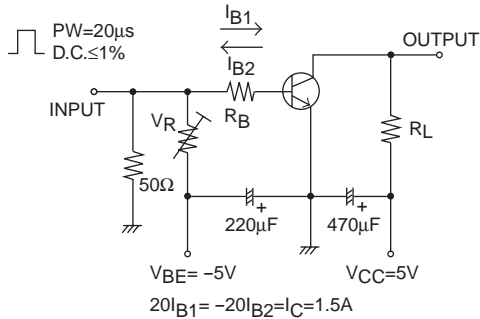
Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V _{CB0}		15	V
Collector-to-Emitter Voltage	V _{CE0}		10	V
Emitter-to-Base Voltage	V _{EB0}		7	V
Collector Current	I _C		5	A
Collector Current (Pulse)	I _{CP}		9	A
Base Current	I _B		1	A
Collector Dissipation	P _C		0.55	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

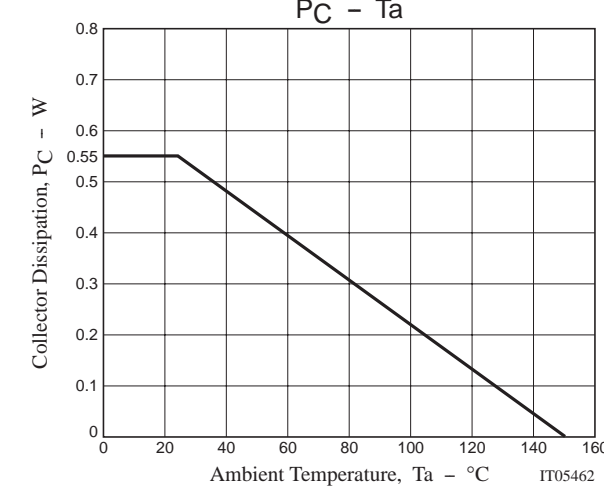
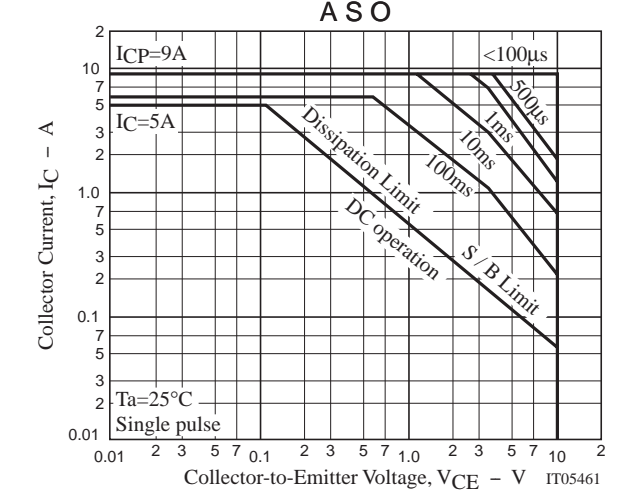
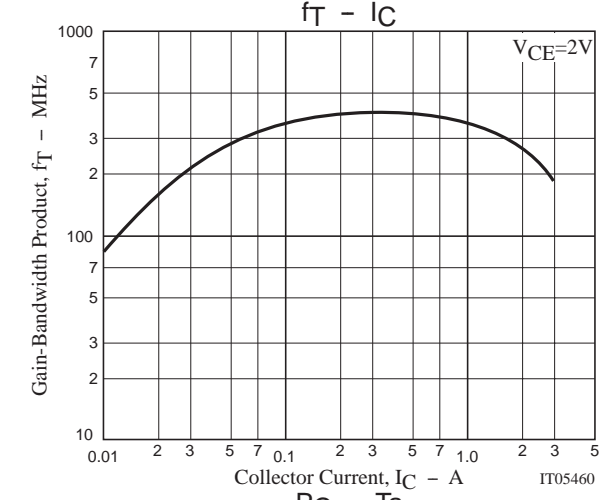
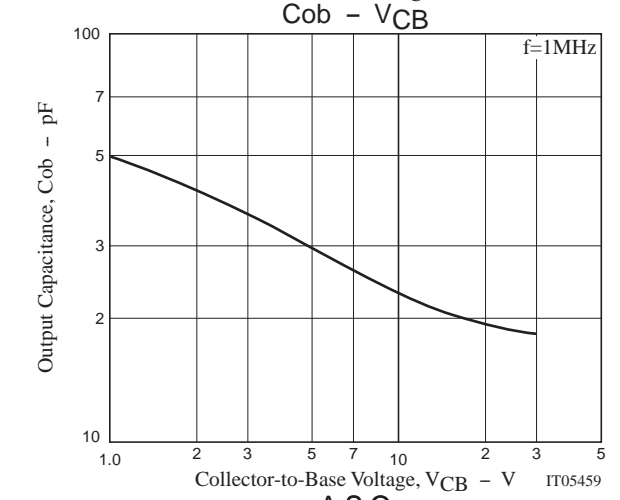
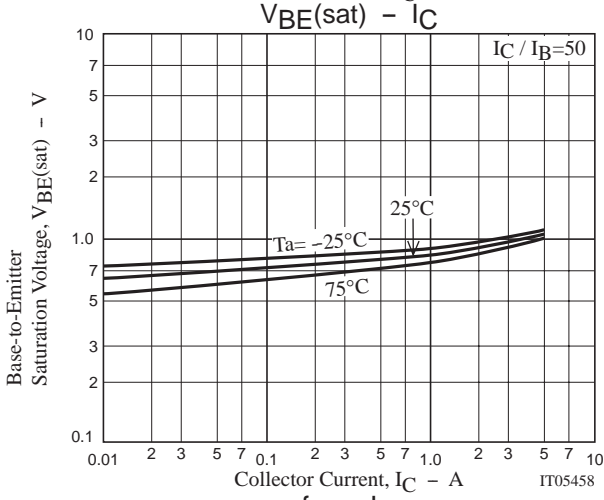
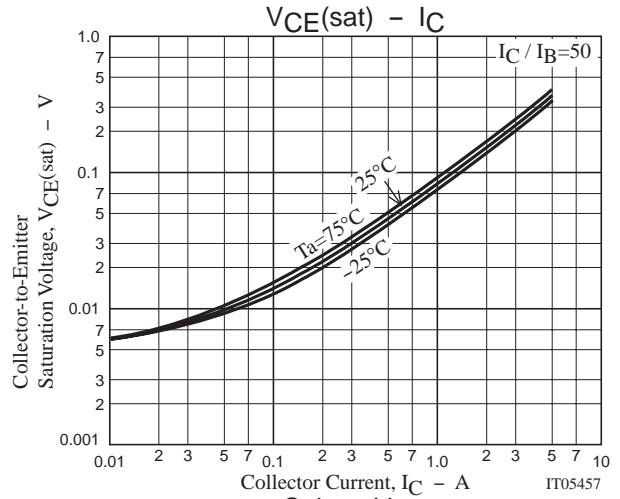
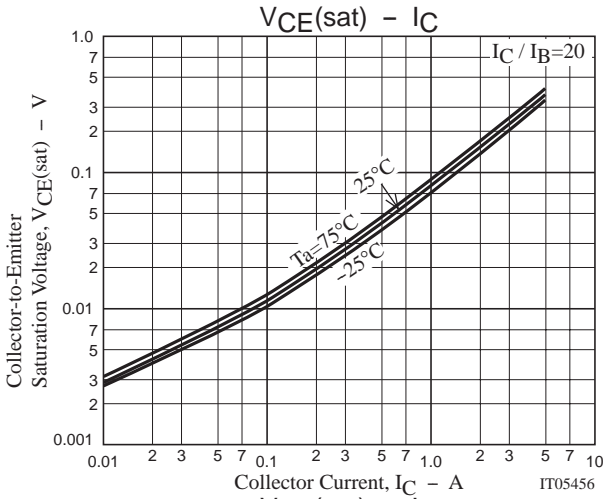
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Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	$V_{CB}=10V, I_E=0$			0.1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=4V, I_C=0$			0.1	μA
DC Current Gain	h_{FE1}	$V_{CE}=2V, I_C=500mA$	450		1200	
	h_{FE2}	$V_{CE}=2V, I_C=3A$	200			
Gain-Bandwidth Product	f_T	$V_{CE}=2V, I_C=500mA$		350		MHz
Output Capacitance	C_{ob}	$V_{CB}=10V, f=1MHz$		23		pF
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)1}$	$I_C=1.5A, I_B=30mA$		120	180	mV
	$V_{CE(sat)2}$	$I_C=3A, I_B=60mA$		230	350	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	$V_{(BR)CES}$	$I_C=1mA, R_{BE}=\infty$	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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