



2SA2011/2SC5564

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.
- Ultrasmall-sized package permitting applied sets to be made small and slim.
- High allowable power dissipation.

Specifications

() : 2SA2011

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 _{CEO}		(-)15	V
Emitter-to-Base Voltage	V _{EBO}		(-)5	V
Collector Current	I _C		(-)6	A
Collector Current (Pulse)	I _{CP}		(-)9	A
Base Current	I _B		(-)600	mA
Collector Dissipation	P _C	Mounted on a ceramic board (250mm ² ×0.8mm)	1.3	W
		T _C =25°C	3.5	W
Junction Temperature	T _J		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta = 25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I _{CB0}	V _{CB} =(-)12V, I _E =0			(-)0.1	μA
Emitter Cutoff Current	I _{EBO}	V _{EB} =(-)4V, I _C =0			(-)0.1	μA
DC Current Gain	h _{FE}	V _{CE} =(-)2V, I _C =(-)500mA	200		560	
Gain-Bandwidth Product	f _T	V _{CE} =(-)2V, I _C =(-)500mA		(350)		MHz
				380		MHz
Output Capacitance	C _{ob}	V _{CB} =(-)10V, f=1MHz		(41)23		pF

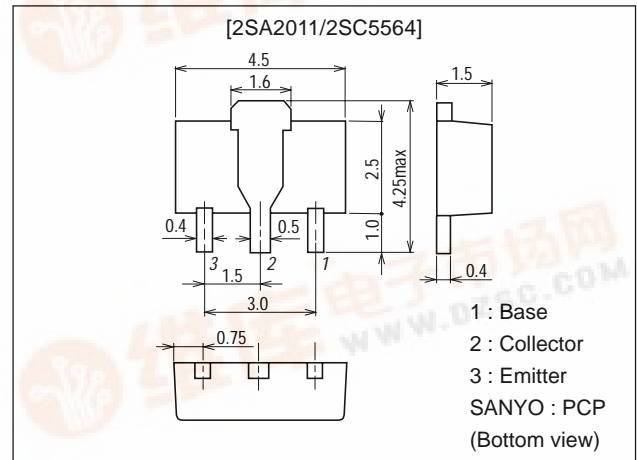
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Marking : 2SA2011 : AR 2SC5564 : FA

Package Dimensions

unit:mm

2038A



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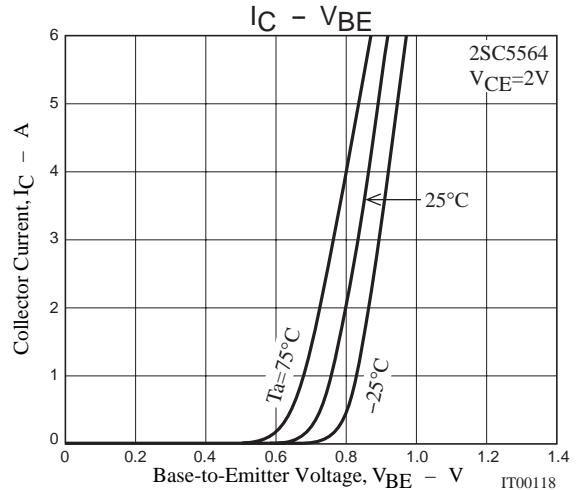
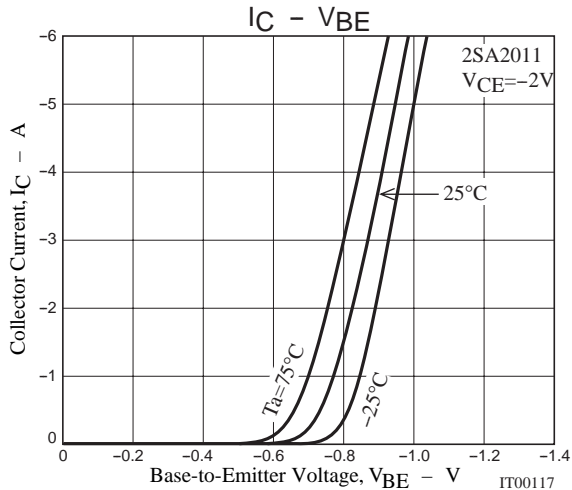
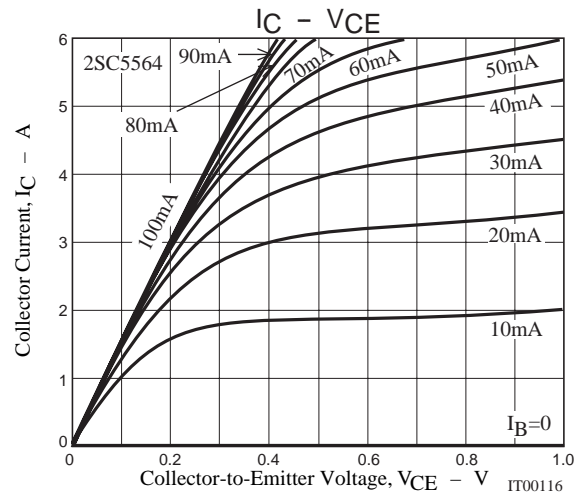
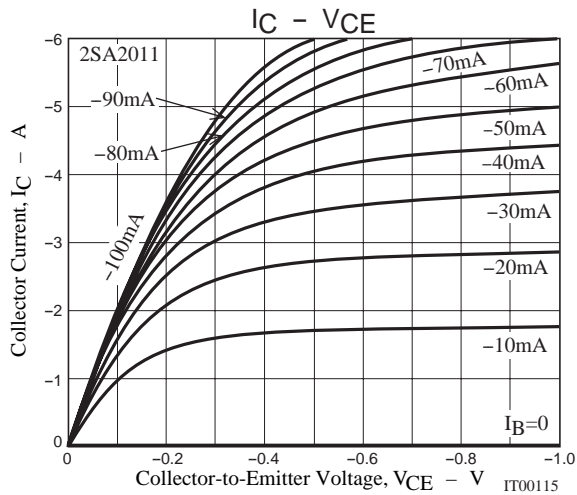
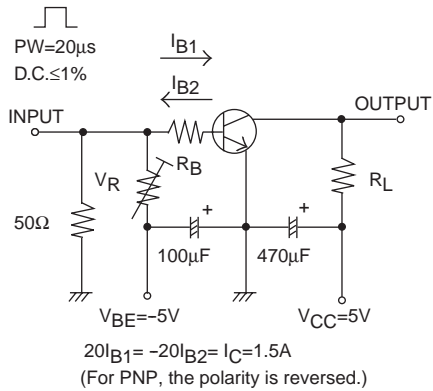


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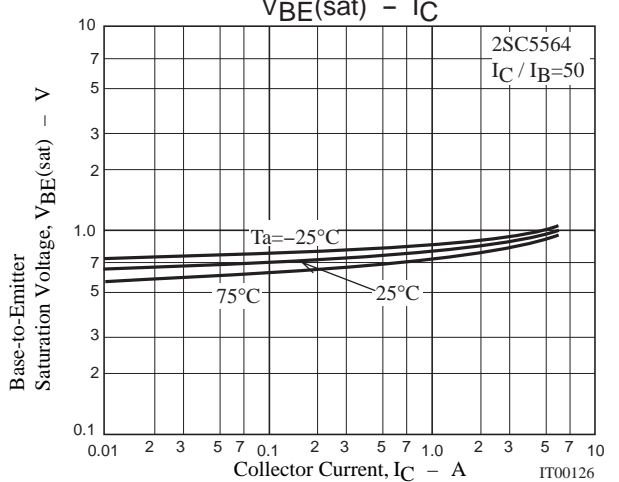
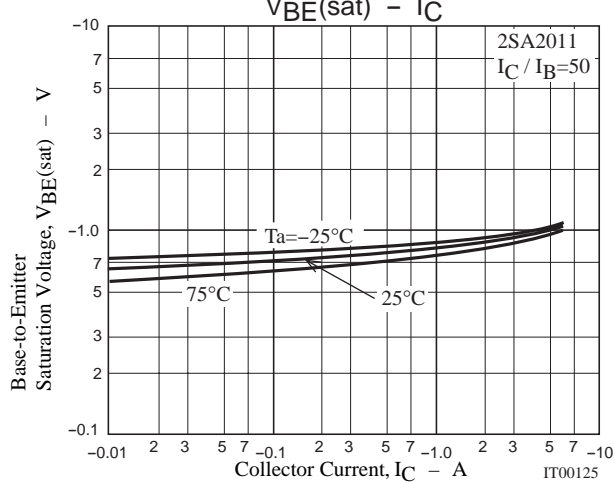
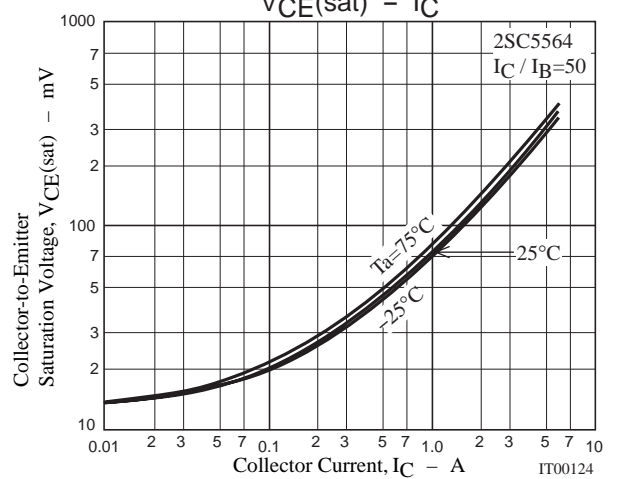
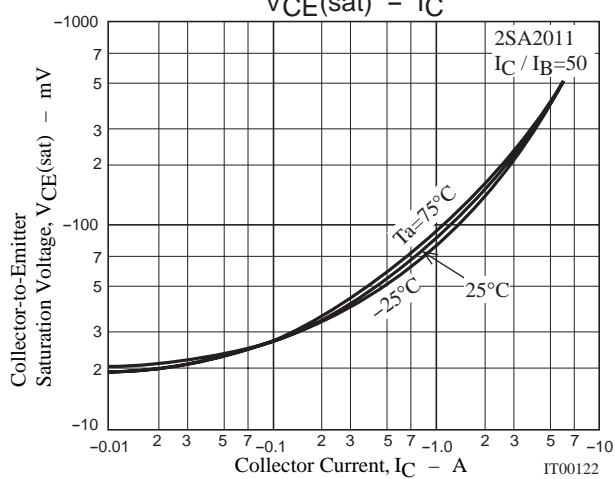
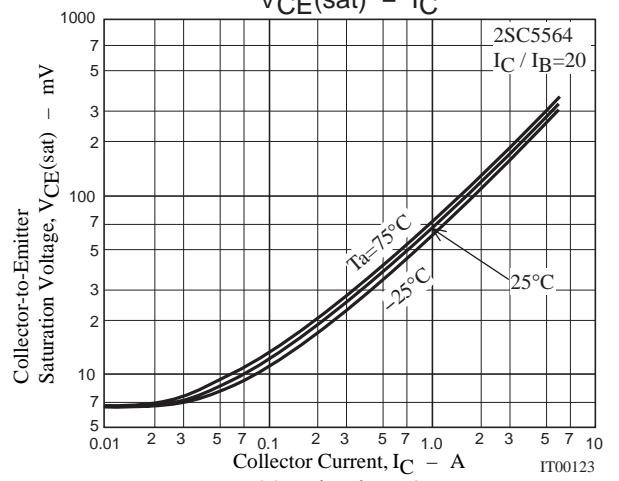
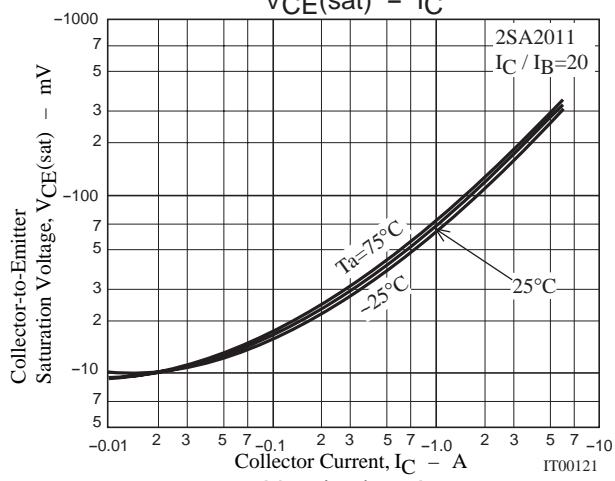
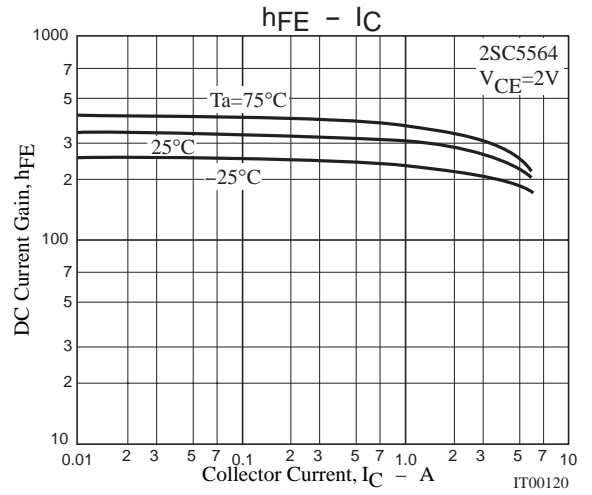
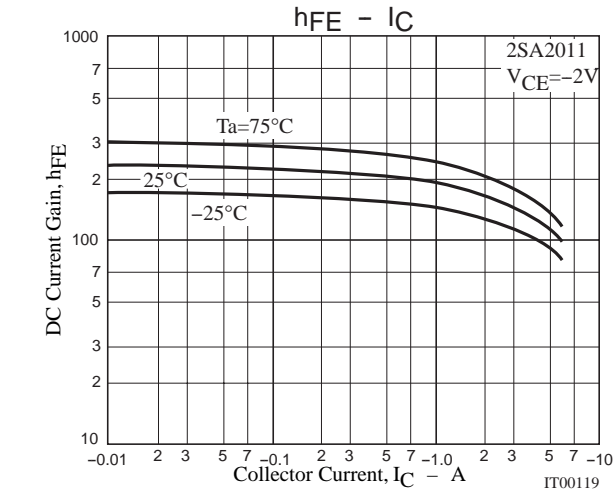
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=(-)1.5A, I_B=(-)30mA$		(-)120	(-)180	mV
		$I_C=(-)3A, I_B=(-)60mA$		(-)190	(-)290	mV
Base-to-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C=(-)1.5A, I_B=(-)30mA$		200	300	mV
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C=(-)10\mu A, I_E=0$	(-)15			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)12			V
			15			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	$I_E=(-)10\mu A, I_C=0$	(-)5			V
Turn-ON Time	t_{on}	See specified Test Circuit		(35)30		ns
Storage Time	t_{stg}	See specified Test Circuit		(110)		ns
				190		ns
Fall Time	t_f	See specified Test Circuit		15		ns

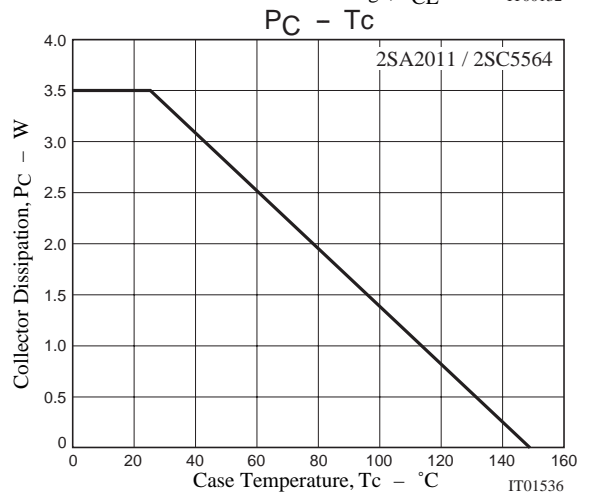
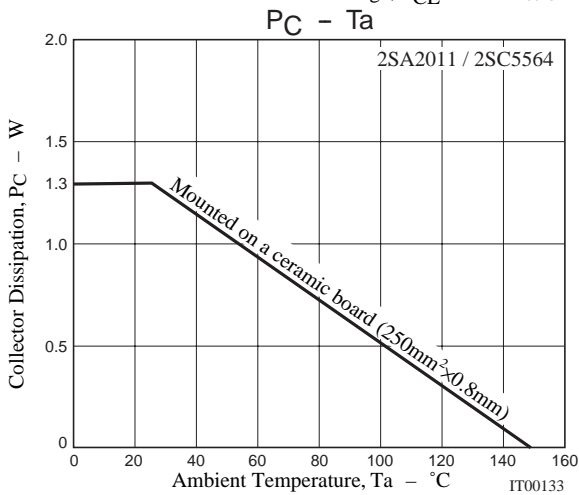
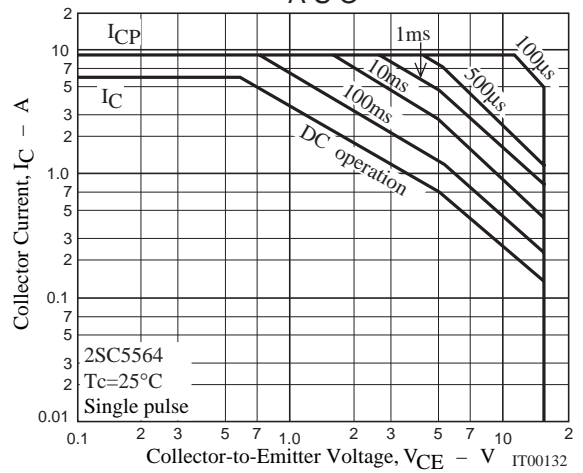
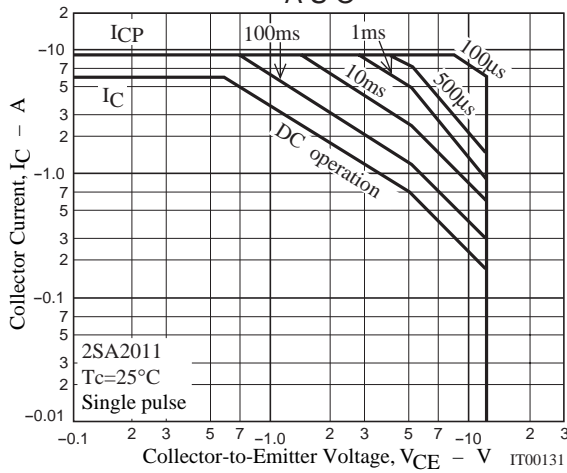
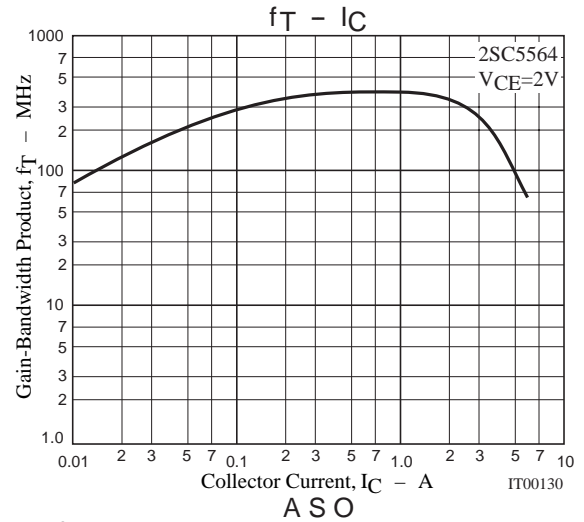
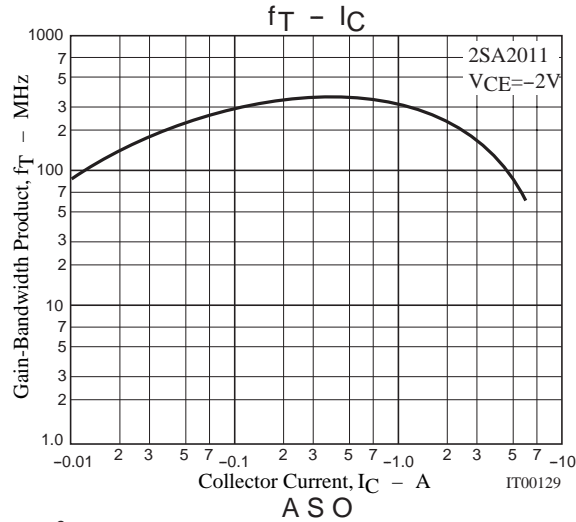
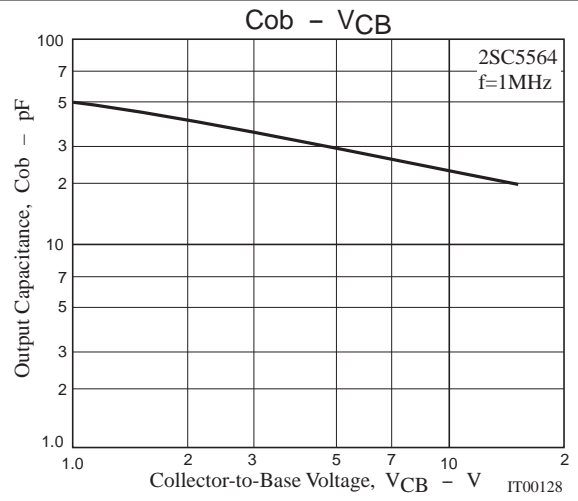
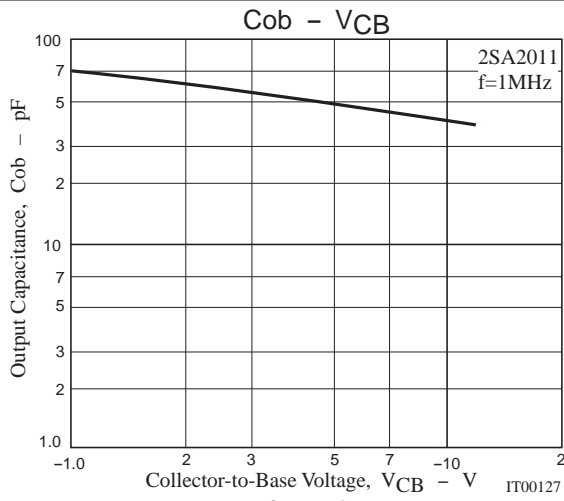
Switching Time Test Circuit



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