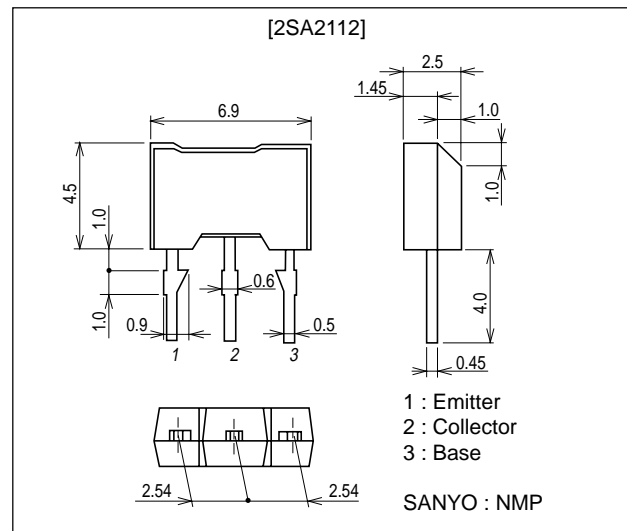


**2SA2112****High Current Switching Applications****Applications**

- DC-DC converter, relay drivers, lamp drivers, motor drivers, strobes.

Package Dimensionsunit : mm
2064A**Features**

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

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

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CB0}		-50	V
Collector-to-Emitter Voltage	V_{CES}		-50	V
Collector-to-Emitter Voltage	V_{CEO}		-50	V
Emitter-to-Base Voltage	V_{EBO}		-6	V
Collector Current	I_C		-3	A
Collector Current (Pulse)	I_{CP}		-6	A
Base Current	I_B		-600	mA
Collector Dissipation	P_C		1	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_{CBO}	$V_{CB}=-40\text{V}, I_E=0$			-1	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB}=-4\text{V}, I_C=0$			-1	μA
DC Current Gain	h_{FE}	$V_{CE}=-2\text{V}, I_C=-100\text{mA}$	200		560	
Gain-Bandwidth Product	f_T	$V_{CE}=-10\text{V}, I_C=-500\text{mA}$		390		MHz

Continued on next page.

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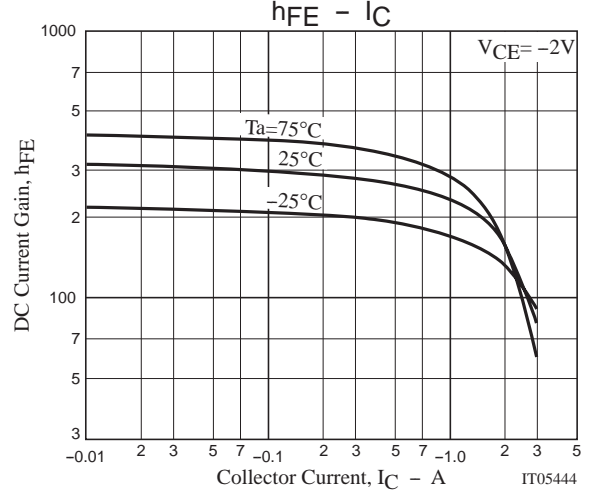
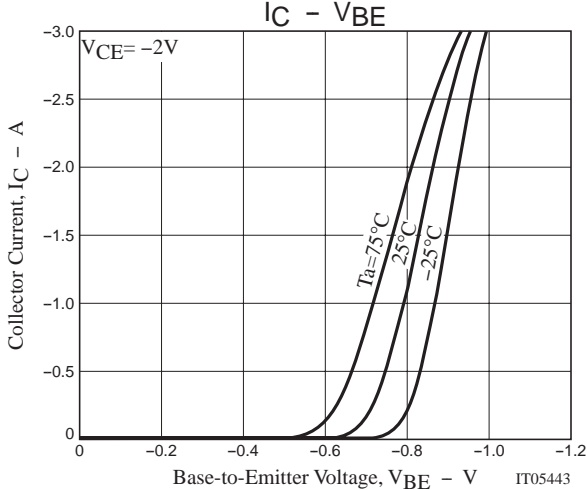
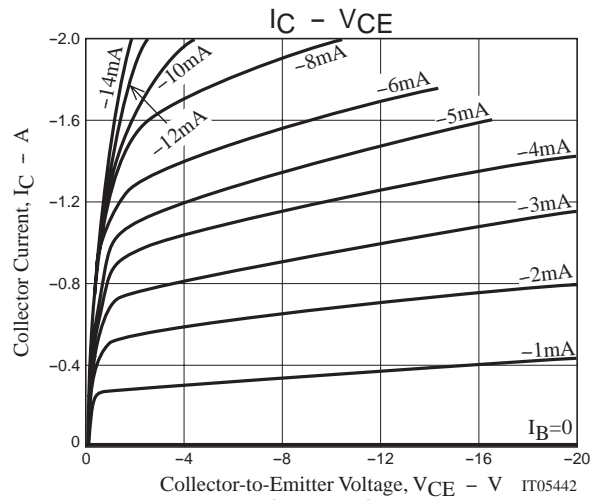
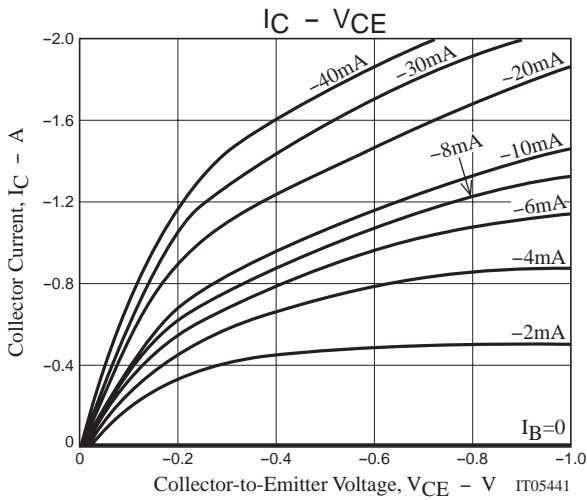
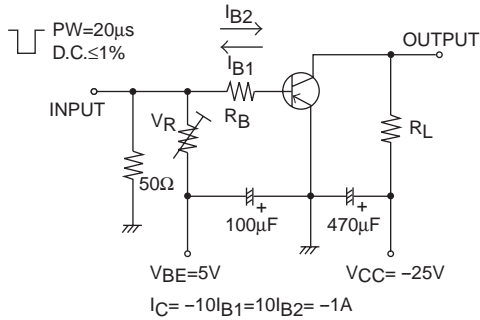
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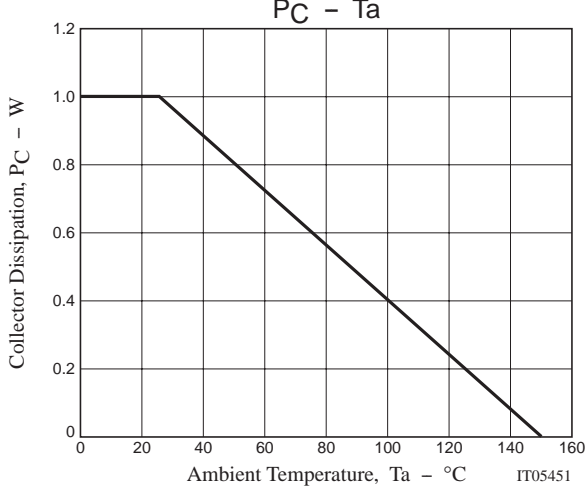
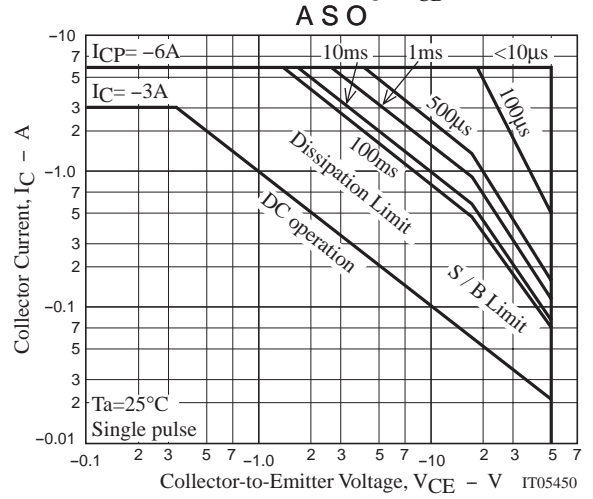
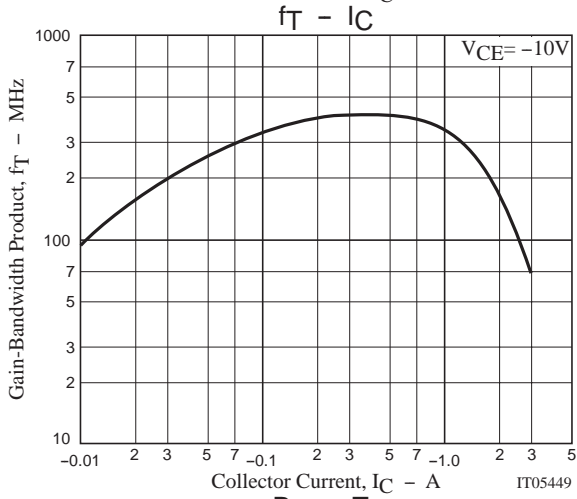
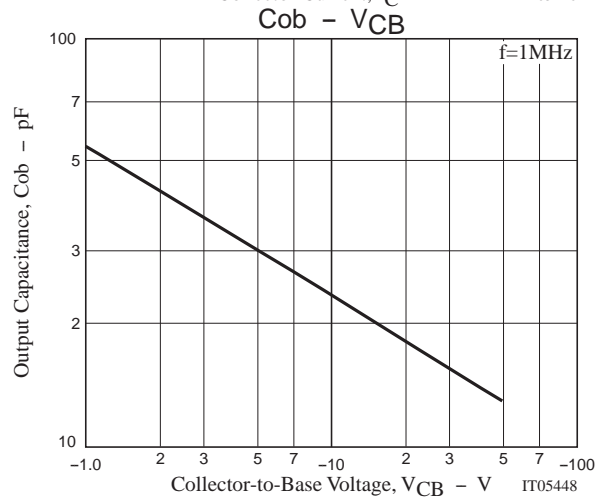
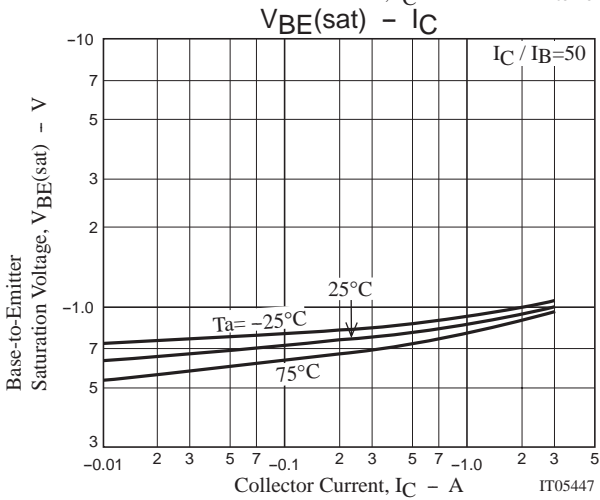
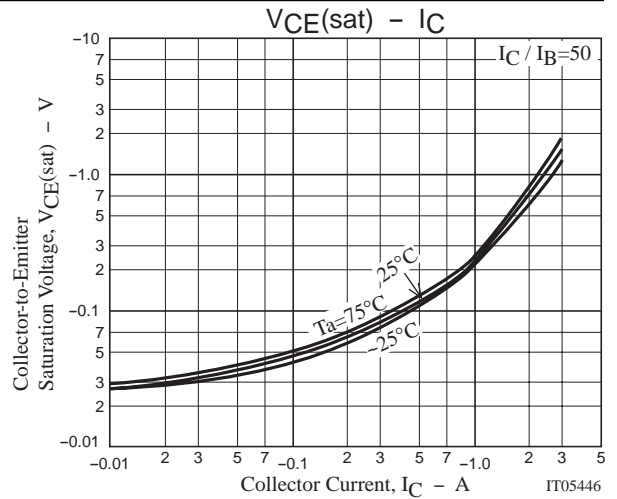
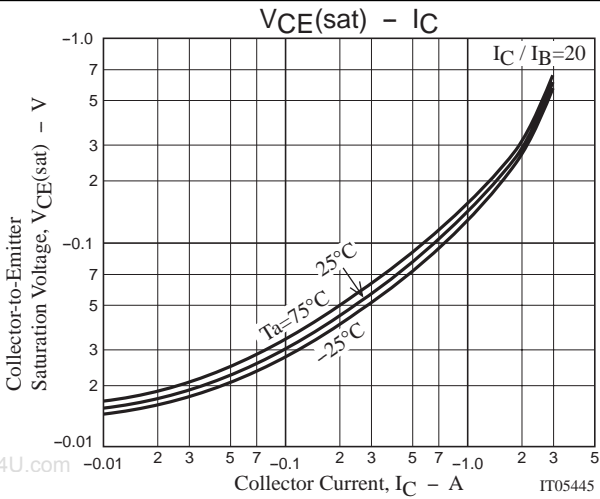
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output Capacitance	Cob	V _{CB} =-10V, f=1MHz		24		pF
Collector-to-Emitter Saturation Voltage	V _{CE(sat)1}	I _C =-1A, I _B =-50mA		-135	-270	mV
	V _{CE(sat)2}	I _C =-2A, I _B =-100mA		-260	-700	mV
Base-to-Emitter Saturation Voltage	V _{BE(sat)}	I _C =-2A, I _B =-100mA		-0.88	-1.2	V
Collector-to-Base Breakdown Voltage	V _{(BR)CBO}	I _C =-10μA, I _E =0	-50			V
Collector-to-Emitter Breakdown Voltage	V _{(BR)CES}	I _C =-100μA, R _{BE} =0	-50			V
	V _{(BR)CEO}	I _C =-1mA, R _{BE} =∞	-50			V
Emitter-to-Base Breakdown Voltage	V _{(BR)EBO}	I _E =-10μA, I _C =0	-6			V
Turn-ON Time	t _{on}	See specified Test Circuit.		30		ns
Storage Time	t _{stg}	See specified Test Circuit.		230		ns
Fall Time	t _f	See specified Test Circuit.		18		ns

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Switching Time Test Circuit



2SA2112



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