

SANYO	No.686I	<h2 style="margin: 0;">2SB824/2SD1060</h2> <p style="margin: 0;">PNP/NPN Epitaxial Planar Silicon Transistors</p> <p style="margin: 0;">50V/5A Switching Applications</p>
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APPLICATIONS

- Suitable for relay drivers, high-speed inverters, converters, and other general large-current switching

FEATURES

- Low collector-emitter saturation voltage: $V_{CE(sat)} = (-)0.4V \text{ max} / I_C = (-)3A, I_B = (-)0.3A$

Values for 2SB824 shown in ()

ABSOLUTE MAXIMUM RATINGS/ $T_a = 25^\circ C$

			unit
Collector-to-base voltage	V_{CBO}	(-)60	V
Collector-to-emitter voltage	V_{CEO}	(-)50	V
Emitter-to-base voltage	V_{EBO}	(-)6	V
Collector current	I_C	(-)5	A
Collector Current (Pulse)	I_{CP}	(-)9	A
Allowable collector dissipation	P_C	$T_c = 25^\circ C$	30 W
Junction temperature	T_j	150	$^\circ C$
Storage ambient temperature	T_{stg}	-55~+150	$^\circ C$

ELECTRICAL CHARACTERISTICS/ $T_a = 25^\circ C$

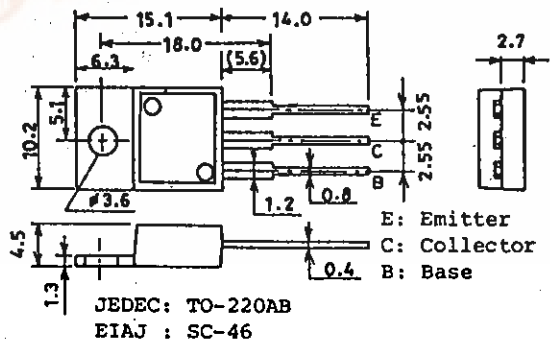
			min	typ	max	unit
Collector cut-off current	I_{CBO}	$V_{CB} = (-)40V, I_E = 0$			(-)0.1	mA
Emitter cut-off current	I_{EBO}	$V_{EB} = (-)4V, I_C = 0$			(-)0.1	mA
DC current gain	$h_{FE(1)}$	$V_{CE} = (-)2V, I_C = (-)1A$	70*		280*	
	$h_{FE(2)}$	$V_{CE} = (-)2V, I_C = (-)3A$	30			
Gain bandwidth product	f_T	$V_{CE} = (-)5V, I_C = (-)1A$		30		MHz
Output capacitance	C_{ob}	$V_{CB} = (-)10V, f = 1MHz$		100		pF
				(160)		pF
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = (-)3A, I_B = (-)0.3A$			(-)0.4	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C = (-)1mA, I_E = 0$	(-)60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C = (-)1mA, R_{BE} = \infty$	(-)50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E = (-)1mA, I_C = 0$	(-)6			V
Turn-on time	t_{on}	at the appointed circuit		0.1		μs
Storage time	t_{stg}	at the appointed circuit	(0.7)1.4			μs
Fall time	t_f	at the appointed circuit		0.2		μs

* 2SB824 and 2SD1060 are graded as follows by h_{FE} at 1A:

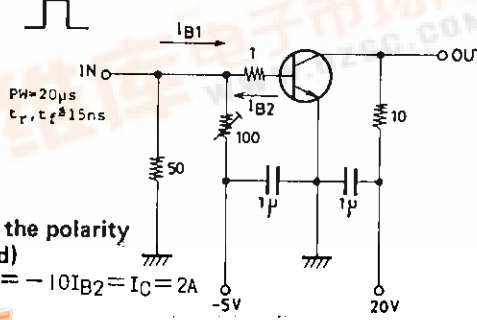
70	Q	140	R	200	S	280
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Package Dimensions 2010B

(unit: mm)



Switching time measurement circuit



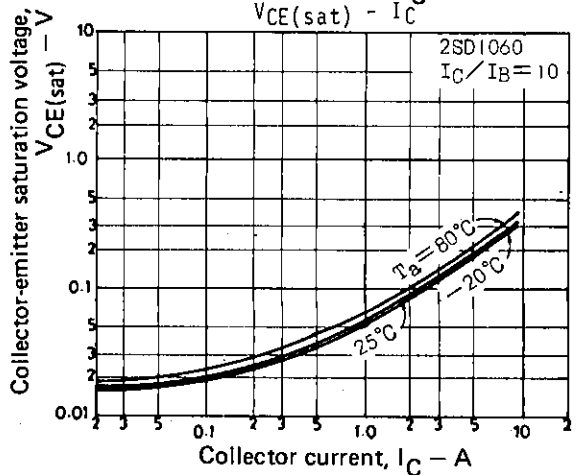
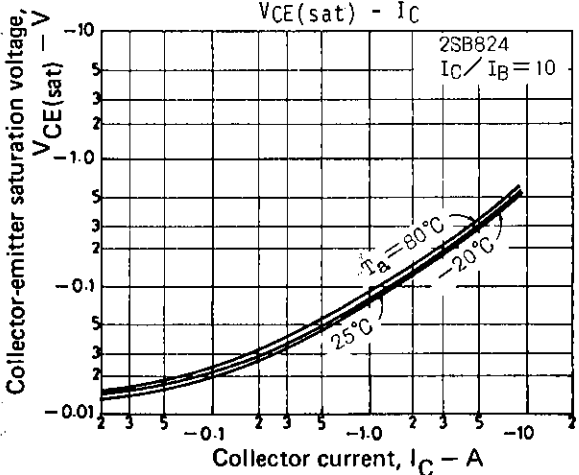
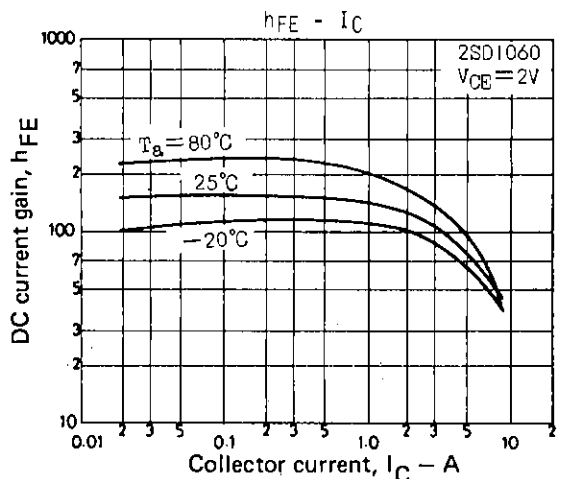
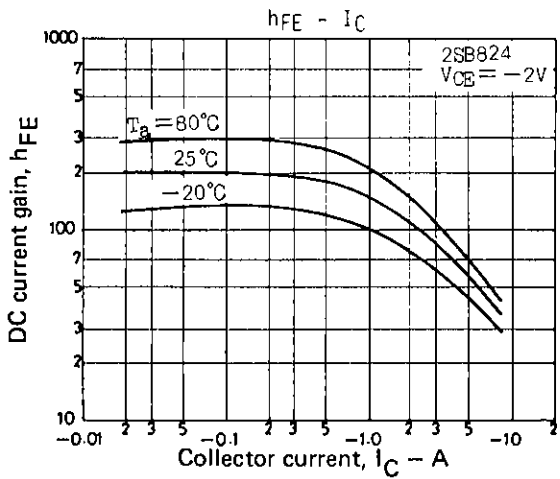
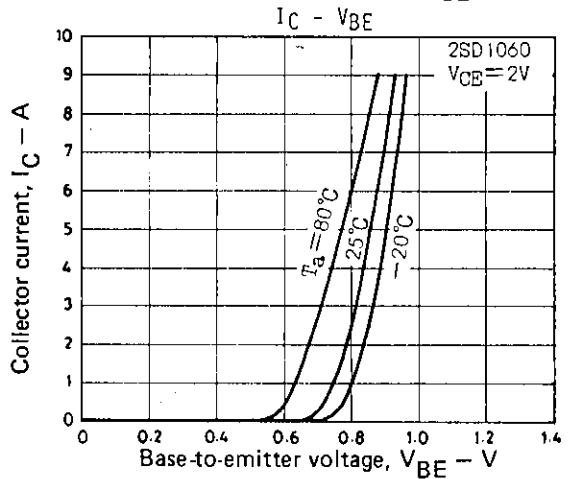
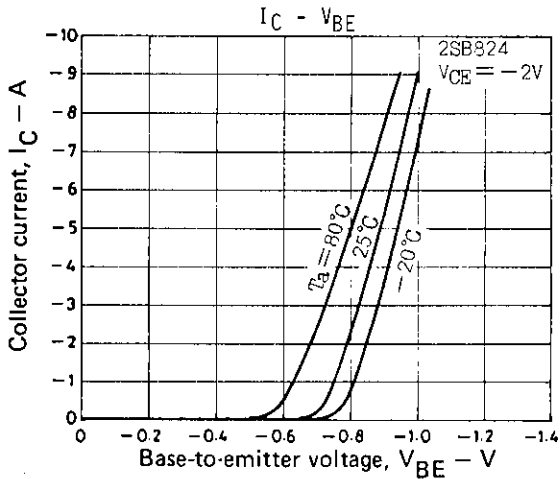
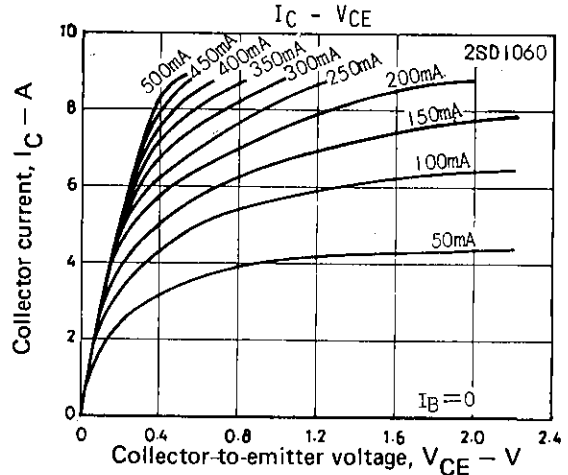
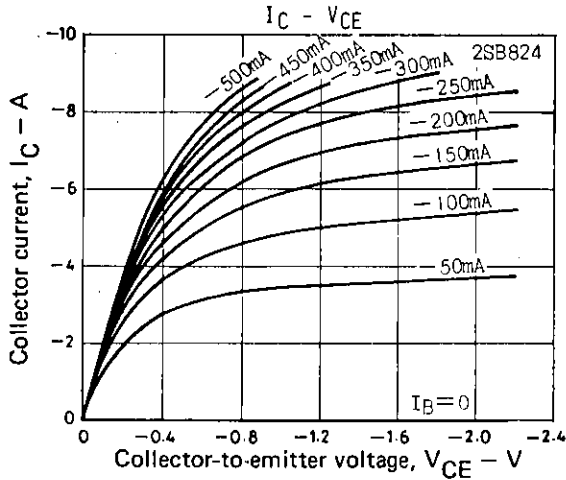
(For PNP, the polarity is reversed)

$10I_{B1} = -10I_{B2} = I_C = 2A$

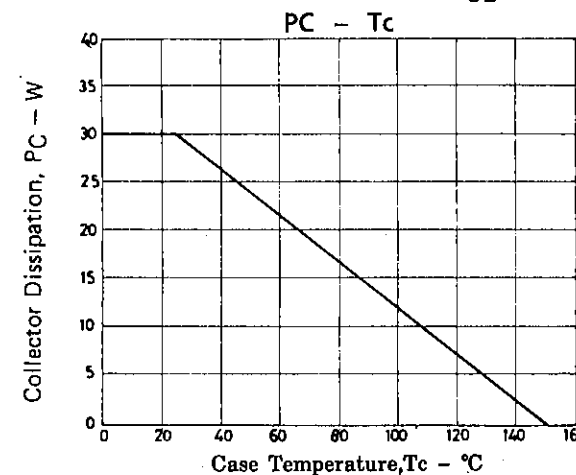
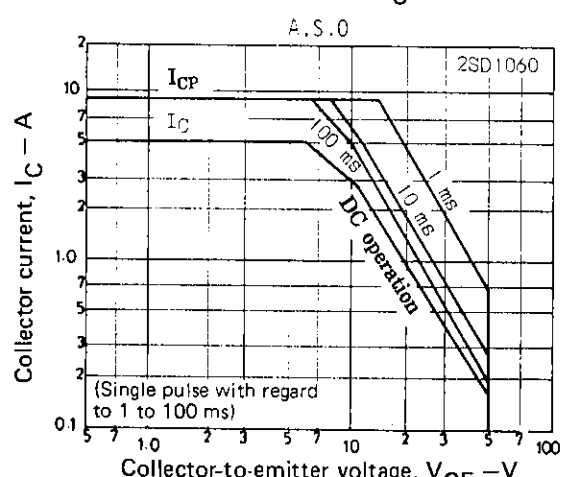
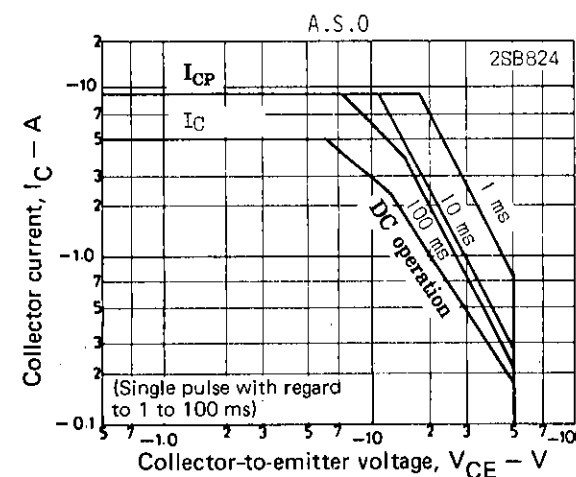
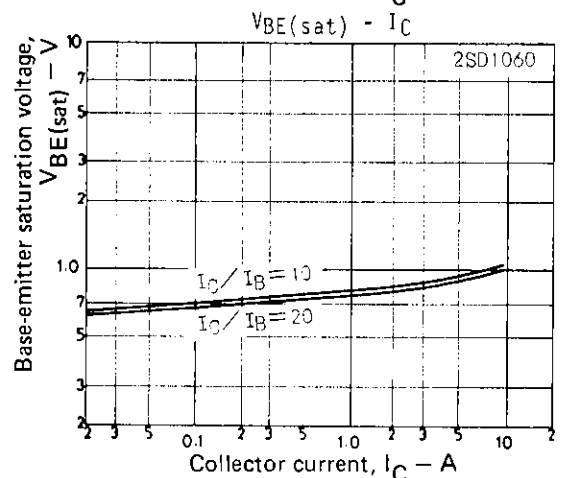
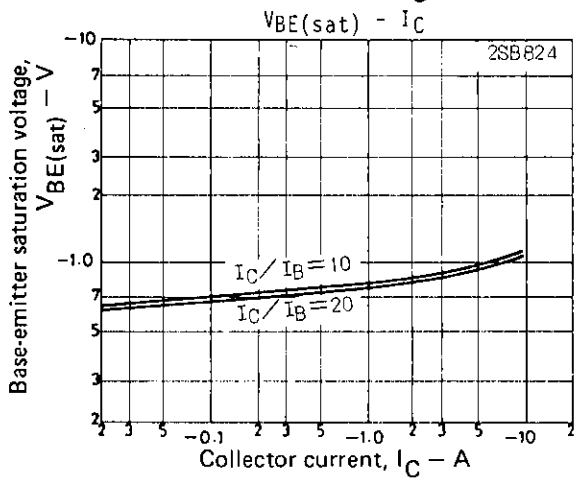
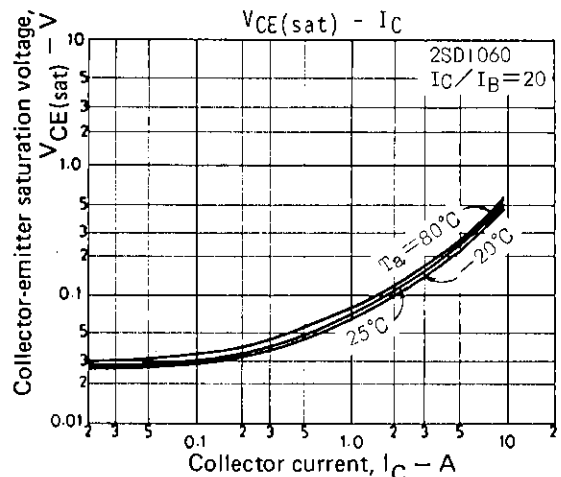
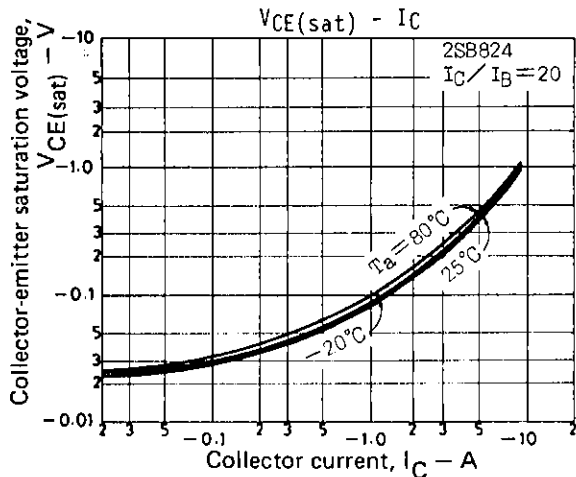
Unit (resistance: Ω , capacitance: F)



2SB824/2SD1060



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