Ordering number:EN3364

PNP/NPN Epitaxial Planar Silicon Transistors

2SB1468/2SD2219

30V/8A High-Speed Switching Applications

Applications

· Relay drivers, high-speed inverters, converters, etc.

Features

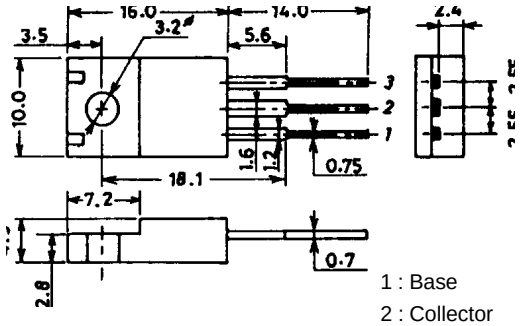
· Micaless package facilitating mounting.
· Low collector-to-emitter saturation voltage : $V_{CE(sat)}$=–0.5V (PNP), 0.4V (NPN) max.
· Large current capacity.

Package Dimensions

unit:mm

2041A

[2SB1468/2SD2219]



1 : Base
2 : Collector
3 : Emitter
SANYO : TO-220ML

( ) : 2SB1468

Specifications

Absolute Maximum Ratings at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	V_{CBO}		(–)60	V
Collector-to-Emitter Voltage	V_{CEO}		(–)30	V
Emitter-to-Base Voltage	V_{EBO}		(–)6	V
Collector Current	I_C		(–)12	A
Collector Current (Pulse)	I_{CP}		(–)20	A
Collector Dissipation	P_C		2	W
		Tc=25˚C	25	W
Junction Temperature	Tj		150	˚C
Storage Temperature	Tstg		–55 to +150	˚C

Electrical Characteristics at Ta = 25˚C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector Cutoff Current	I_{CBO}	V_{CB}=(–)40V, I_E=0			(–)0.1	mA
Emitter Cutoff 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=(–)6A	30			
Gain-Bandwidth Product	f_T	V_{CE}=(–)5V, I_C=(–)1A		120		MHz
Collector-to-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=(–)5A, I_B=(–)0.25A			(–0.5)	V
					0.4	V

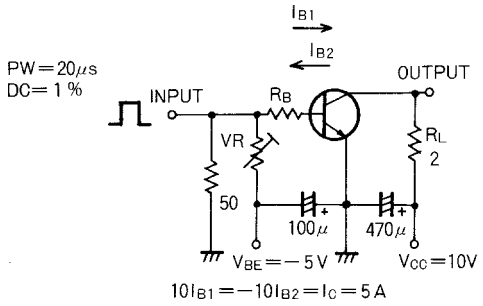
* : The 2SB1468/2SD2219 are classified by 1A h_{FE} as follows :

70	Q	140	100	R	200	140	S	280

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquaters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

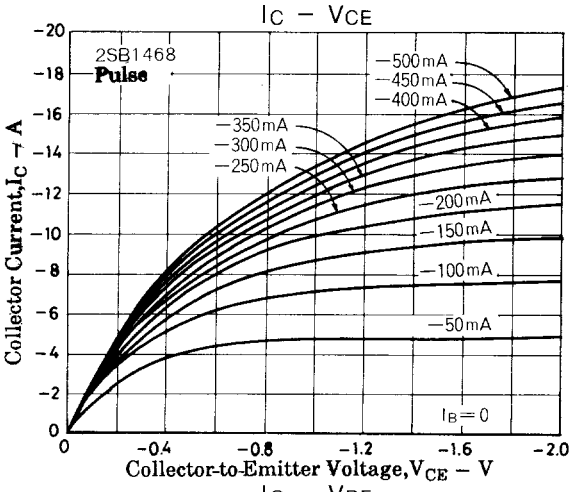
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Collector-to-Base Breakdown Voltage	$V_{(BR)CBO}$	I_C=(–)1mA, I_E=0	(–)60			V
Collector-to-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=(–)1mA, R_{BE}=∞	(–)30			V
Emitter-to-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=(–)1mA, I_C=0	(–)6			V
Turn-ON Time	t_{on}	See specified test circuit.		(0.1)		μs
				0.2		μs
Storage Time	t_{stg}	See specified test circuit.		(0.3)		μs
				0.5		μs
Fall Time	t_f	See specified test circuit.		0.03		μs

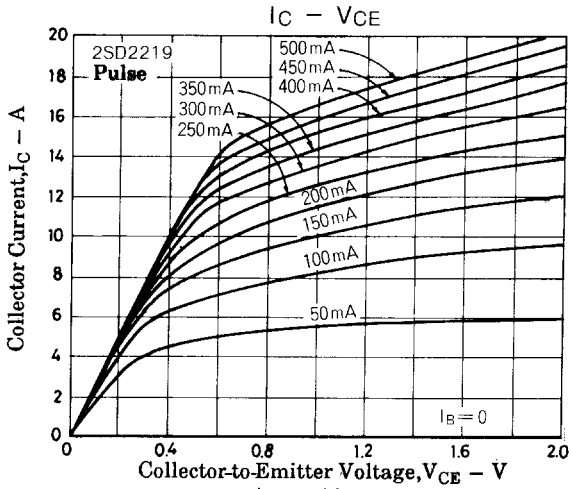
Switching Time Test Circuit

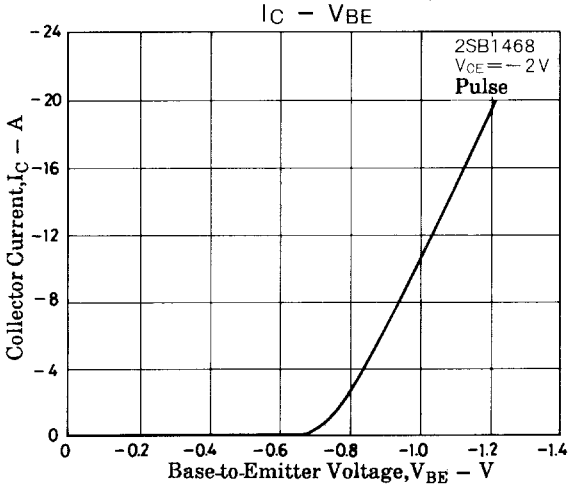


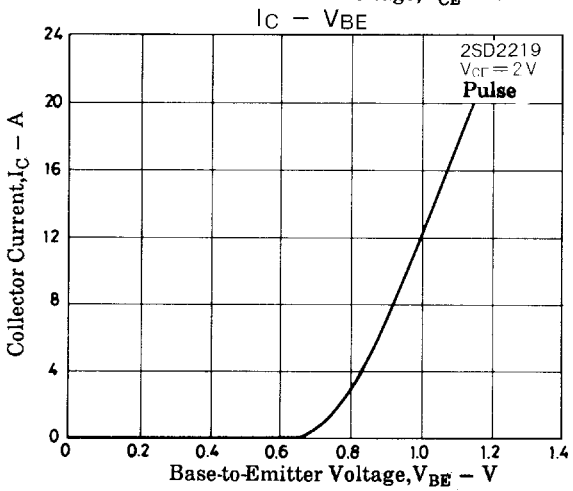
$10I_{B1}=-10I_{B2}=I_C=5A$

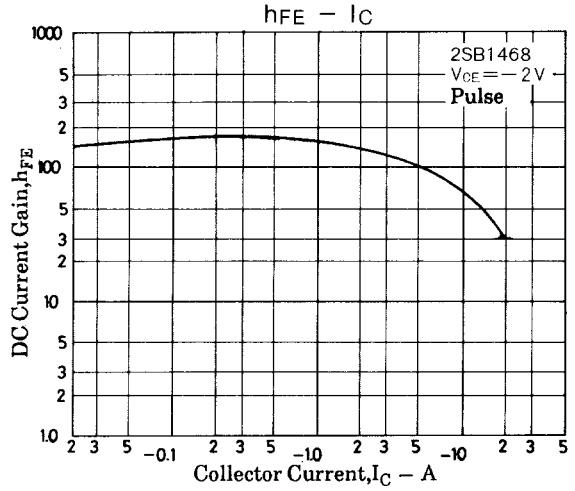
Unit (resistance : Ω, capacitance : F)

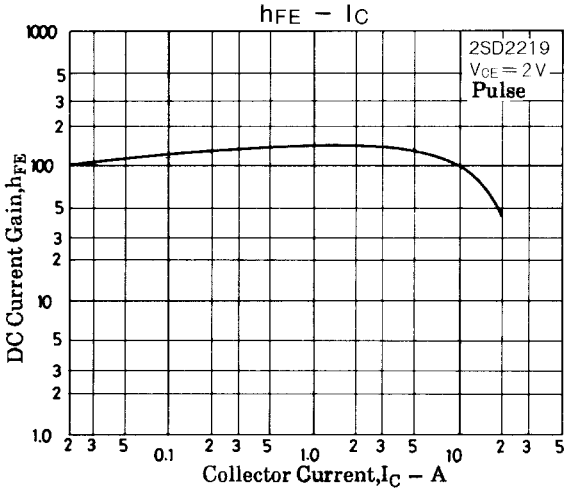


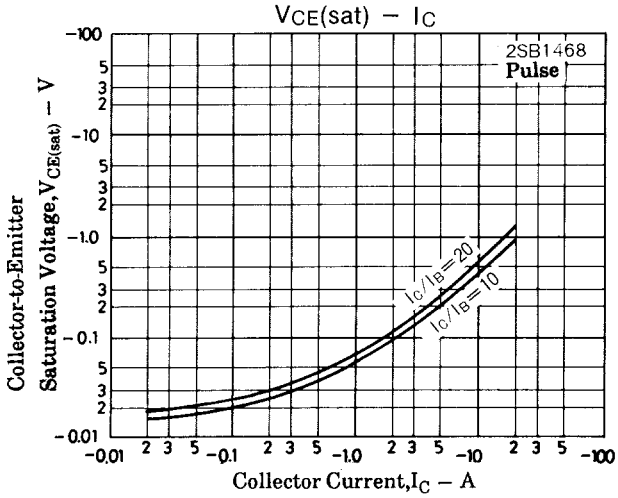


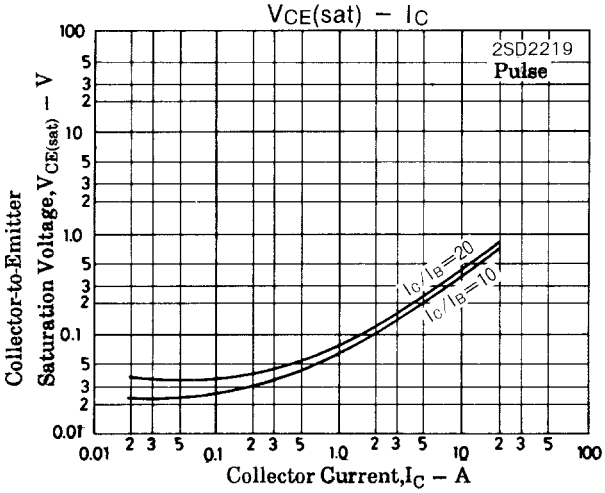


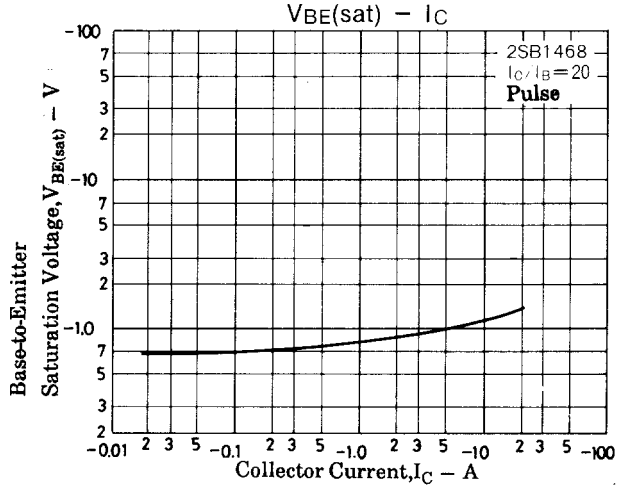


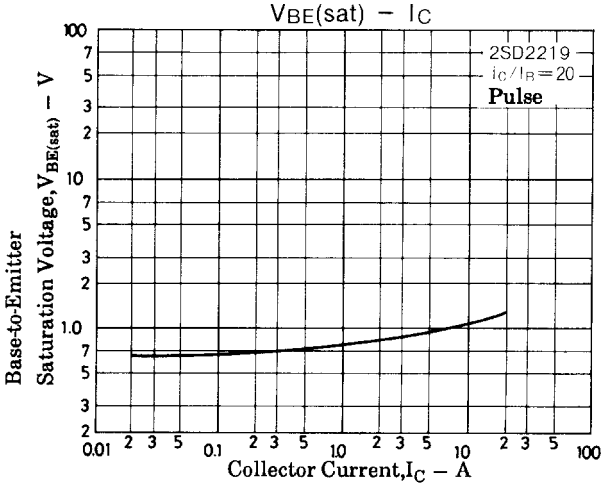

hFE – IC
2SB1468
VCE = – 2V
Pulse
DC Current Gain, hFE
Collector Current, IC – A

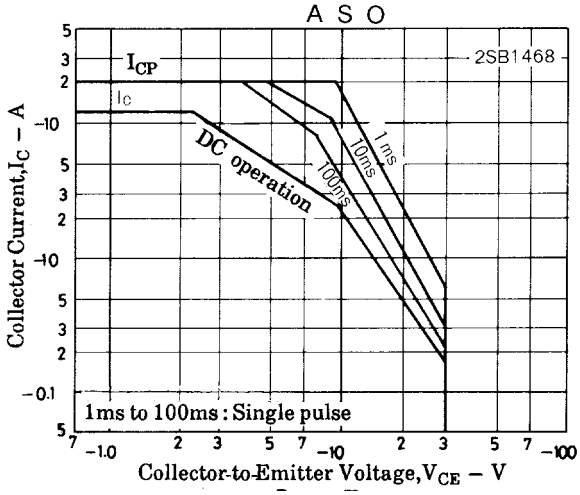

hFE – IC
2SD2219
VCE = 2V
Pulse
DC Current Gain, hFE
Collector Current, IC – A

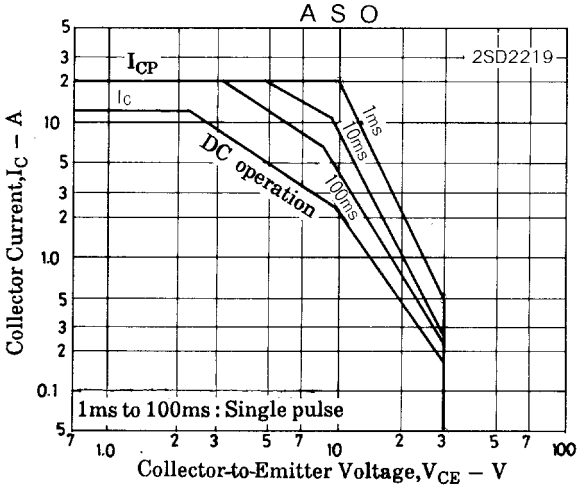

VCE(sat) – IC
2SB1468
Pulse
IC/IB=20
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A


VCE(sat) – IC
2SD2219
Pulse
IC/IB=20
IC/IB=10
Collector-to-Emitter Saturation Voltage, VCE(sat) – V
Collector Current, IC – A


VBE(sat) – IC
2SB1468
IC/IB=20
Pulse
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A


VBE(sat) – IC
2SD2219
IC/IB=20
Pulse
Base-to-Emitter Saturation Voltage, VBE(sat) – V
Collector Current, IC – A


A S O
2SB1468
ICP
IC
DC operation
1ms
10ms
100ms
1ms to 100ms : Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V


A S O
2SD2219
ICP
IC
DC operation
1ms
10ms
100ms
1ms to 100ms : Single pulse
Collector Current, IC – A
Collector-to-Emitter Voltage, VCE – V