**PNP/NPN Epitaxial Planar Silicon Transistors** 



2SB1267/2SD1903

# **30V/8A High-Current Switching Applications**

## **Applications**

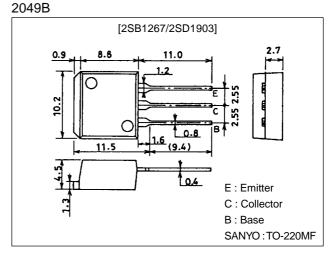
• Suitable for relay drivers, high-speed inverters, converters and other general high-current switching.

### **Features**

- · Suitable for sets whose height is restricted.
- $\cdot$  Low collector to emitter saturation voltage :
- $V_{CE}(sat) = -0.5V$  (PNP), 0.4V (NPN) max.
- $\cdot$  Large current capacity.

# **Package Dimensions**

unit:mm



():2SB1267

## **Specifications**

#### Absolute Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Collector-to-Base Voltage	VCBO		(-)60	V
Collector-to-Emitter Voltage	VCEO		(-)30	V
Emitter-to-Base Voltage	VEBO		(-)6	V
Collector Current	ι <sub>C</sub>		(-)8	А
Collector Current (Pulse)	ICP		()15	A
Collector Dissipation	PC		1.65	W
		Tc=25°C	30	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	Unit
Collector Cutoff Current	ICBO	V <sub>CB</sub> =(-)40V, I <sub>E</sub> =0			(–)0.1	μA
Emitter Cutoff Current	IEBO	V <sub>EB</sub> =(-)4V, I <sub>C</sub> =0			(–)0.1	μA
DC Current Gain	h <sub>FE</sub> 1	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)1A	70*		280*	
	h <sub>FE</sub> 2	V <sub>CE</sub> =(-)2V, I <sub>C</sub> =(-)4A	30			
Gain-Bandwidth Product	fT	V <sub>CE</sub> =(-)5V, I <sub>C</sub> =(-)1A		120		MHz
Collector-to-Emitter Saturation Voltage	VCE(sat)	I <sub>C</sub> =(-)3A, I <sub>B</sub> =(-)0.15A			0.4	V
					(-0.5)	V

\* : The 2SB1267/2SD1903 are classified by 1A  $h_{FE}$  as follows : 70 Q 140 100 R 200 140 S 280

Any and all SANYO products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your SANYO representative nearest you before using any SANYO products described or contained herein in such applications.

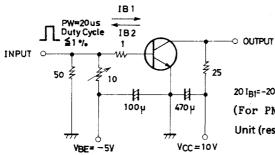
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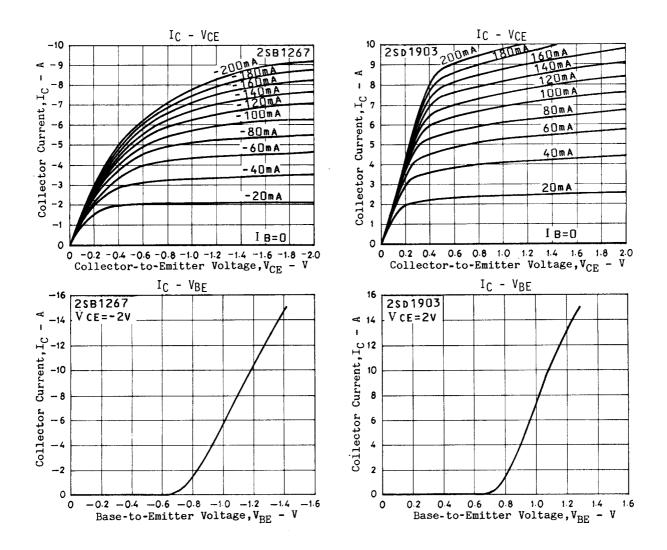
# 2SB1267/2SD1903

Parameter	Symbol	Conditions		Ratings		
	Symbol		min	typ	max	Unit
Collector-to-Base Breakdown Voltage	V <sub>(BR)</sub> CBO	I <sub>C</sub> =(-)1mA, I <sub>E</sub> =0	(–)60			V
Collector-to-Emitter Breakdown Voltage	V(BR)CEO	I <sub>C</sub> =(−)1mA, R <sub>BE</sub> =∞	(–)30			V
Emitter-to-Base Breakdown Voltage	V(BR)EBO	I <sub>E</sub> =(-)1mA, I <sub>C</sub> =0	(–)6			V
Turn-ON Time	ton	See specified test circuit.		0.1		μs
Storage Time	<sup>t</sup> stg	See specified test circuit.		(0.2)		μs
				0.5		μs
Fall Time	t <sub>f</sub>	See specified test circuit.		0.03		μs

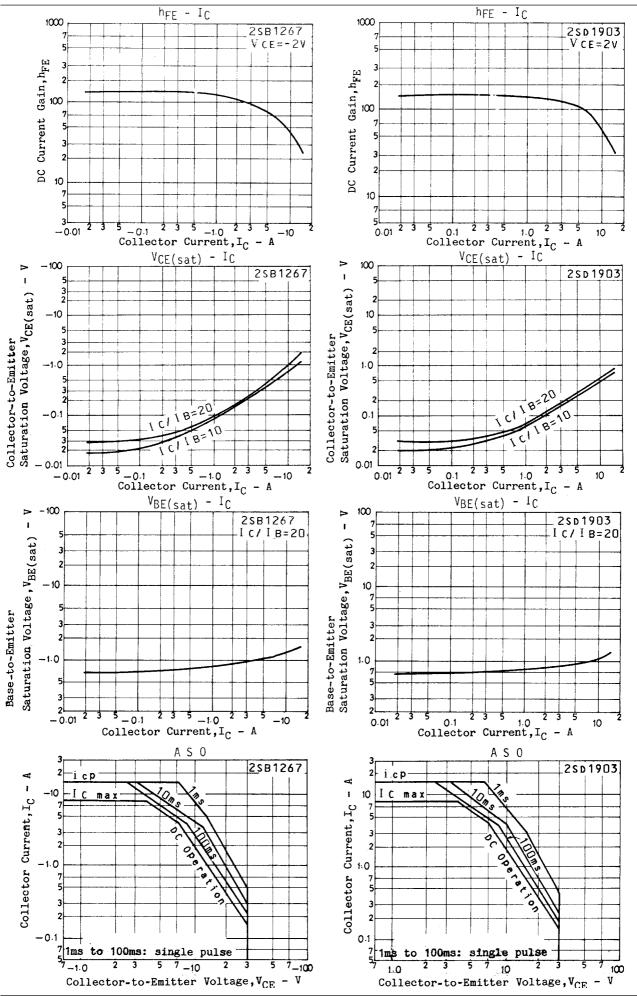
#### **Switching Time Test Circuit**

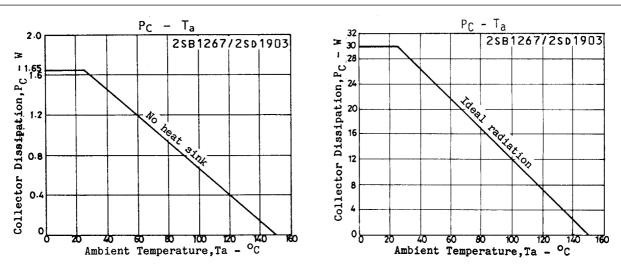


20  $I_{B1}$ =-20 $I_{B2}$ = $I_C$ =4A (For PNP, the polarity is reversed.) Unit (resistance:  $\Omega$ , capacitance: F)



## 2SB1267/2SD1903





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