

SANYO

No.3150

2SB1450/2SD2199

PNP/NPN Epitaxial Planar Silicon Transistors

50V/7A Switching Applications**Features**

- Surface mount type device making the following possible
 - Reduction in the number of manufacturing processes for 2SB1450/2SD2199-applied equipment
 - High density surface mount applications
 - Small size of 2SB1450/2SD2199-applied equipment
- Low collector-to-emitter saturation voltage
- Highly resistant to breakdown because of wide ASO

(): 2SB1450

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

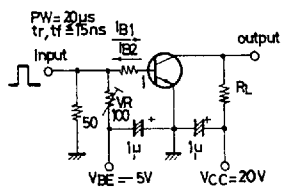
			unit
Collector-to-Base Voltage	V_{CB0}	(-)60	V
Collector-to-Emitter Voltage	V_{CE0}	(-)50	V
Emitter-to-Base Voltage	V_{EB0}	(-)6	V
Collector Current	I_C	(-)7	A
Collector Current(Pulse)	I_{CP}	(-)12	A
Collector Dissipation	P_C	1.65	W
		40	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

 $T_c = 25^\circ\text{C}$ **Electrical Characteristics at $T_a = 25^\circ\text{C}$**

			min	typ	max	unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = (-)40\text{V}, I_E = 0$			(-)0.1	mA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = (-)4\text{V}, I_C = 0$			(-)0.1	mA
DC Current Gain	$h_{FE}(1)$	$V_{CE} = (-)2\text{V}, I_C = (-)1\text{A}$	70※		280※	
	$h_{FE}(2)$	$V_{CE} = (-)2\text{V}, I_C = (-)5\text{A}$	30			
Gain-Bandwidth Product	f_T	$V_{CE} = (-)5\text{V}, I_C = (-)1\text{A}$		10		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-)4\text{A}, I_B = (-)0.4\text{A}$			(-)0.4	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-)1\text{mA}, I_E = 0$	(-)60			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-)1\text{mA}, R_{BE} = \infty$	(-)50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E = (-)1\text{mA}, I_C = 0$	(-)6			V
Turn-ON Time	t_{on}	See specified Test Circuit.		0.2		μs
Storage Time	t_{stg}	"		(0.1)0.3		μs
Fall Time	t_f	"		(0.7)0.9		μs

※ : The 2SB1450/2SD2199 are classified by 1A h_{FE} as follows.

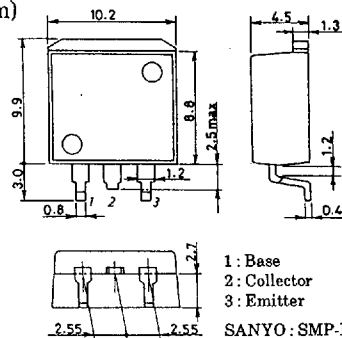
70	Q	140	100	R	200	140	S	280
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Switching Time Test Circuit $10 I_{B1} = -10 I_{B2} = I_C = 2\text{A}$

For PNP, the polarity is reversed.

Unit (Resistance : Ω , Capacitance : F)**Package Dimensions 2069B**

(unit : mm)

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