

SANYO

No.1797B

2SB921L/2SD1237L

PNP/NPN Epitaxial Planar Silicon Transistors

80V/7A Switching Applications**APPLICATIONS**

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

FEATURES

- Low collector-emitter saturation voltage: $V_{CE(sat)} = -0.5V(\text{PNP}), 0.4V(\text{NPN})$ max.
- Large current capacity

Values for 2SB921 shown in ()

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

			unit
Collector-to-base voltage	V_{CBO}	(-)90	V
Collector-to-emitter voltage	V_{CEO}	(-)80	V
Emitter-to-base voltage	V_{EBO}	(-)6	V
Collector current	I_C	(-)7	A
Collector Current (Pulse)	I_{CP}	(-)12	A
Allowable collector dissipation	P_C	1.75	W
		40	W
		$T_C=25^\circ\text{C}$	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage ambient temperature	T_{stg}	-55~+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS/ $T_a=25^\circ\text{C}$

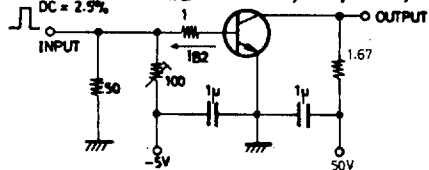
			min	typ	max	unit
Collector cut-off current	I_{CBO}	$V_{CB}=(-)80V, I_E=0$			(-)0.1	mA
Emitter cut-off current	I_{EBO}	$V_{EB}=(-)4V, I_C=0$			(-)0.1	mA
DC current gain	$h_{FE(1)}$	$V_{CE}=(-)2V, I_C=(-)1A$	70*		280*	
	$h_{FE(2)}$	$V_{CE}=(-)2V, I_C=(-)4A$	30			
Gain bandwidth product	f_T	$V_{CE}=(-)5V, I_C=(-)1A$		20		MHz
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=(-)4A, I_B=(-)0.4A$			0.4	V
					(-0.5)	V
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=(-)1mA, I_E=0$	(-)90			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=(-)1mA, R_{BE}=\infty$	(-)80			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=(-)1mA, I_C=0$	(-)6			V
Turn-on time	t_{on}	See specified test circuit.		(0.2)0.1		μs
Storage time	t_{stg}	See specified test circuit.		(0.7)1.6		μs
Fall time	t_f	See specified test circuit.		(0.2)0.4		μs

* 2SB921 and 2SD1237 are graded as follows by h_{FE} at 1A:

70	Q	140	100	R	200	140	S	280
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Switching Time Test Circuit

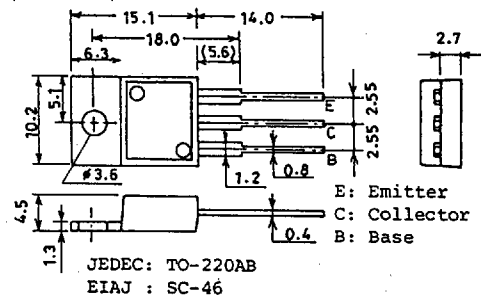
(For PNP, the polarity is reversed)



$$10I_{B1} = -10I_{R2} = I_C = 2A$$

Unit (resistance: Ω , capacitance: F)**Package Dimensions 2010B**

(unit: mm)

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