



2SB920/2SD1236

PNP/NPN Epitaxial Planar Type Silicon Transistor  
 For General Purpose Large Current Switching

Features:

- \* Very Low Collector Saturation Voltage:  $V_{CE(sat)} = -0.5V$  (PNP),  $0.4V$  (NPN) max.
- \* Wide Safety Operation Area

( ) is for 2SB920, the description other than which are common to 2SB920, 2SD1236.

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

			unit
Collector to Base Voltage	$V_{CBO}$	(-)120	V
Collector to Emitter Voltage	$V_{CEO}$	(-) 80	V
Emitter to Base Voltage	$V_{EBO}$	(-) 6	V
Collector Current	$I_C$	(-) 5	A
Peak Collector Current	$i_{cp}$	(-) 9	A
Collector Dissipation	$P_C$	30	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

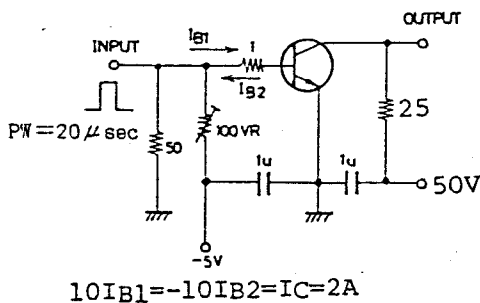
Electrical Characteristics at  $T_a = 25^\circ C$

		min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$			(-)0.1	mA
Emitter Cutoff Current	$I_{EBO}$			(-)0.1	mA
DC Current Gain	$h_{FE}(1)$	70*		280*	
	$h_{FE}(2)$	30			
Gain Bandwidth Product	$f_T$		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$			(-0.5)0.4	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	(-)120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	(-) 80			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	(-) 6			V
Turn On time	$t_{on}$	see test circuit	(0.2)0.1		$\mu s$
Fall Time	$t_f$	"	(0.2)0.4		$\mu s$
Storage Time	$t_{stg}$	"	(0.5)1.0		$\mu s$

\* 2SB920/2SD1236 are classified according to  $h_{FE}$  as follows.

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



Case Outline (unit : mm)

