



2SB924/2SD1240

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

TENTATIVE SPEC.

Features:

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

( ) is for 2SB924, the description other than which are common to 2SB924, 2SD1240.

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

			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	$I_C$	(-) 25	A
Peak Collector Current	$i_{cp}$	(-) 40	A
Collector Dissipation	$P_C$	$T_c = 25^\circ\text{C}$ 120	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

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

			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = (-) 80\text{V}, I_E = 0$			(-) 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*	
	$h_{FE}(2)$	$V_{CE} = (-) 2\text{V}, I_C = (-) 12\text{A}$	30			
Gain Bandwidth Product	$f_T$	$V_{CE} = (-) 2\text{V}, I_C = (-) 1\text{A}$		20		MHz
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C = (-) 12\text{A}, I_B = (-) 1.2\text{A}$			(-0.5) 0.4	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C = (-) 1\text{mA}, I_E = 0$	(-) 120			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C = (-) 1\text{mA}, R_{BE} = \infty$	(-) 80			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_C = (-) 1\text{mA}, I_C = 0$	(-) 6			V
Turn On Time	$t_{on}$	see test circuit				$\mu\text{s}$
Fall Time	$t_f$	"				$\mu\text{s}$
Storage Time	$t_{stg}$	"				$\mu\text{s}$

\* 2SB924/2SD1240 are classified according to 1A  $h_{FE}$  as follows.

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

Case Outline ( unit : mm )

