

### Features

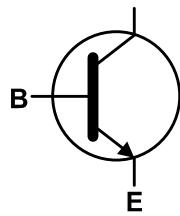
- High voltage and high current :  $V_{CEO} = 50V$ ,  $I_C = 100mA$  (max)
- Excellent  $h_{FE}$  linearity :  $h_{FE}$  ( $I_C = 0.1 mA$ )/ $h_{FE}$  ( $I_C = 2 mA$ ) = 0.95 (typ.)
- High  $h_{FE}$  :  $h_{FE} = 120$  to 400

DFN1006-3L



Bottom View

### Package and Pin Configuration



Device Symbol



Top View  
Device Schematic

### Absolute Maximum Ratings ( $T_A=25^\circ C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Collector-base voltage	$V_{CBO}$	60	V
Collector-emitter voltage	$V_{CEO}$	50	V
Emitter-base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	100	mA
Base current	$I_B$	50	mA
Collector power dissipation	$P_C$	100	mW
Junction temperature	$T_J$	150	°C
Storage temperature range	$T_{STG}$	-55~+150	°C

### Electrical Characteristics ( $T_A = 25^\circ C$ unless otherwise noted)

Parameter	Symbol	Test Condition	Min	Type	Max	Unit
<b>Static Characteristics</b>						
Collector cut-off current	$I_{CBO}$	$V_{CB} = 60 V$ , $I_E = 0$			0.1	$\mu A$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = 5 V$ , $I_C = 0$			0.1	$\mu A$
DC current gain	$h_{FE}$	$V_{CE} = 6 V$ , $I_C = 2 mA$	120		400	V
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = 100 mA$ , $I_B = 10 mA$		0.1	0.25	V
Transition frequency	$f_T$	$V_{CE} = 10 V$ , $I_C = 1 mA$	60		1	Mhz
Collector output capacitance	$C_{ob}$	$V_{CB} = 10 V$ , $I_E = 0$ , $f = 1 MHz$		0.95		pF



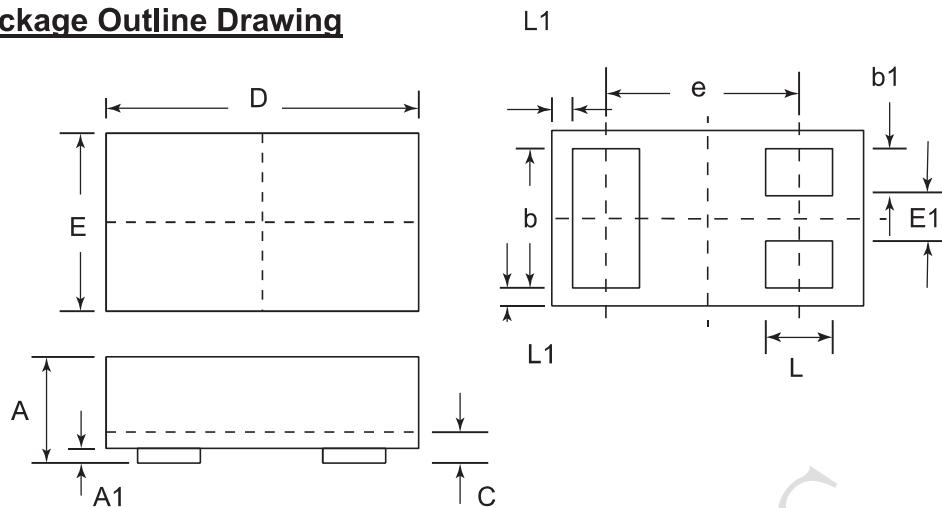
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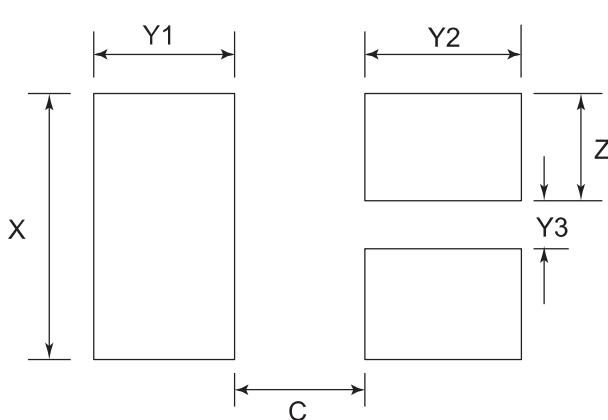
TP5001P3

50V NPN General Purpose Transistor

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DFN1006-3L Package Outline Drawing

SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
b1	0.10	0.15	0.20	0.004	0.006	0.008
C	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
E1	0.15	0.20	0.25	0.006	0.008	0.010
L	0.20	0.25	0.30	0.008	0.010	0.012
L1	0.05 REF			0.0002 REF		

Suggested Land Pattern

SYM	DIMENSIONS	
	MILLIMETERS	INCHES
C	0.25	0.010
X	0.65	0.024
Y1	0.50	0.020
Y2	0.50	0.020
Y3	0.25	0.010
Z	0.20	0.008

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