

**LB1274****6-Unit, Darlington Transistor Array****Overview**

Circuit structure of this IC is a 6-unit Darlington transistor array with NPN transistors. The IC is ideal for driving printers, relays, and lamps. Protective diodes guard against negative inputs. Thus it has advantages when designing circuits to drive printer-calculators that use display tubes, cash registers, and the like.

**Features**

- Ideal for 18-digit printers (because it has 6 units).
- Protective diodes are incorporated against negative inputs ( $V_{IN} = -40$  to  $+20V$ ).
- Ideal for printers, with 85-mA load current ( $I_{OUT\ max} = 100mA$  DC).
- Spark-killer diodes accommodate L-loads.

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

Parameter	Symbol	Conditions	Ratings	Unit
Output supply voltage	$V_{OUT}$		-0.3 to +22	V
Input supply voltage	$V_{IN}$		-40 to +20	V
Pin-8 supply voltage	$V_8$		-0.3 to +20	V
Output inflow current	$I_{OUT}$	Per unit	0 to 100	mA
Instantaneous output inflow current	$I_{OP}$	Per unit : duty $\leq$ 10%, pulse width $<$ 20ms	0 to 150	mA
Spark killer diode forward current	$I_{F(s)}$	Per diode : duty $\leq$ 10%, pulse width $<$ 20ms	0 to 150	mA
GND-pin outflow current	$I_7$		-700 to 0	mA
Pin-8 instantaneous outflow current	$I_{8p}$	duty $\leq$ 10%, pulse width $<$ 20ms	-500 to 0	mA
Allowable power dissipation	$P_d\ max$		1.15	W
Junction temperature	$T_J$		125	$^\circ C$
Operating temperature	$T_{op}$		-20 to +80	$^\circ C$
Storage temperature	$T_{stg}$		-40 to +125	$^\circ C$

**Allowable Operating Ranges** at  $T_a = 25^\circ C$ , pin7=0V

Parameter	Symbol	Conditions	Ratings	Unit
Output supply voltage	$V_{OUT}$		22	V or less
Input high-level voltage	$V_{IH}$	output terminal current=100mA	9 to 20	V
Input low-level voltage	$V_{IL}$	output terminal current=100 $\mu$ A	-35 to +1	V
Load inductance	$L_L$	Protective diodes employed	100	mH or less

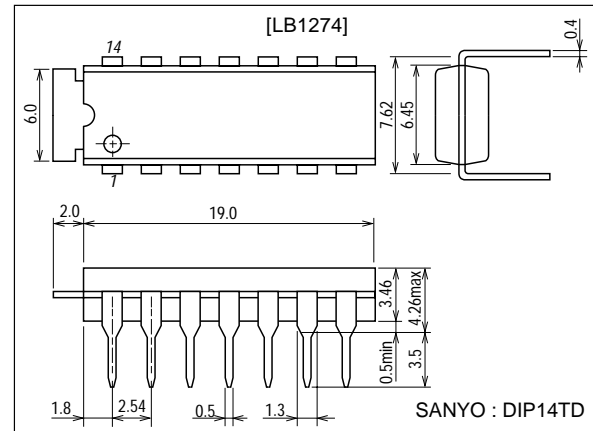
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**Package Dimensions**

unit:mm

3004A-DIP14TD

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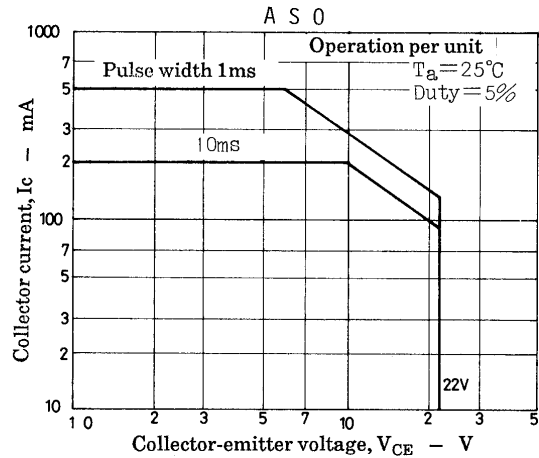
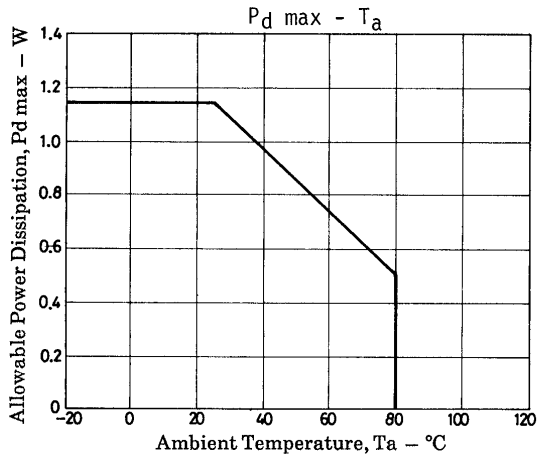
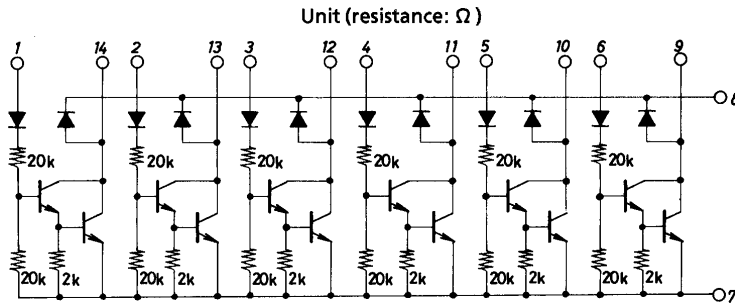
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## Electrical Characteristics at $T_a = 25^\circ\text{C}$ , pin7=0V

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Output voltage	$V_{OUT1}$	$V_{IN}=9.0\text{V}$ , $I_{OUT}=150\text{mA}$			1.7	V
	$V_{OUT2}$	$V_{IN}=9.0\text{V}$ , $I_{OUT}=100\text{mA}$			1.4	V
Output sustaining voltage	$V_{OUT(s)}$	$V_{IN}=\text{open}$ , $I_{OUT}=150\text{mA}$ , applied time<10 $\mu\text{s}$	22			V
Output leakage current	$I_{off}$	$V_{IN}=1.0\text{V}$ , $V_{OUT}=22\text{V}$			100	$\mu\text{A}$
Input current	$I_{IN1}$	$V_{IN}=18\text{V}$			1.8	mA
	$I_{IN2}$	$V_{IN}=9.0\text{V}$			0.8	mA
Output current	$I_{OUT}$	$I_{IN}=0.3\text{mA}$ , $V_{OUT}=1.4\text{V}$	100			mA
Input leakage current	$I_{leak}$	$V_{IN}=-35\text{V}$	-10			$\mu\text{A}$
Spark killer diode leakage current	$I_{leak(s)}$	$V_{OUT}=0\text{V}$ , pin8=20V			30	$\mu\text{A}$
Spark killer diode forward current	$V_{F(s)}$	$I_{F(s)}=150\text{mA}$			1.7	V

## Equivalent Circuit



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