

SANYO

NO.535C

LB1274

6-Unit, Darlington Transistor Array

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 ($V_{IN} = -40 \sim +20$ V).
- Ideal for printers, with 85-mA load current ($I_{OUT\ max} = 100$ mA DC).
- Spark-killer diodes accommodate L-loads.

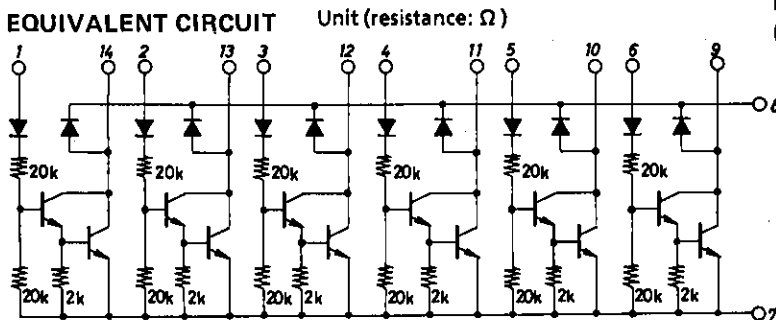
ABSOLUTE MAXIMUM RATINGS/ $T_a = 25^\circ\text{C}$

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

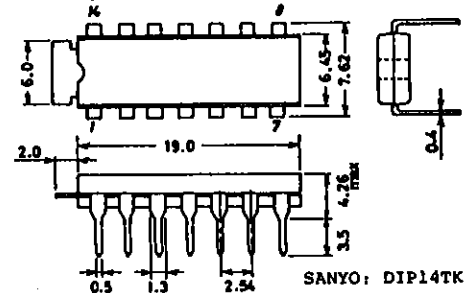
ALLOWABLE OPERATING CONDITIONS/ $T_a = 25^\circ\text{C}$, pin 7 = 0 V

| Parameter | Symbol | Value | Unit |
|--------------------------|-----------|---|----------------|
| Output supply voltage | V_{OUT} | 22 | V or less |
| Input high-level voltage | V_{IH} | Output terminal current = 100 mA | 9 ~ 20 V |
| Input low-level voltage | V_{IL} | Output terminal current = 100 μA | -35 ~ +1 V |
| Load inductance | L_L | Protective diodes employed | 100 mH or less |

EQUIVALENT CIRCUIT



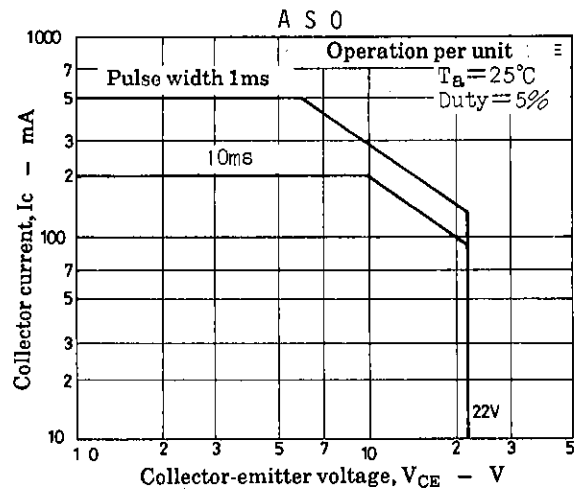
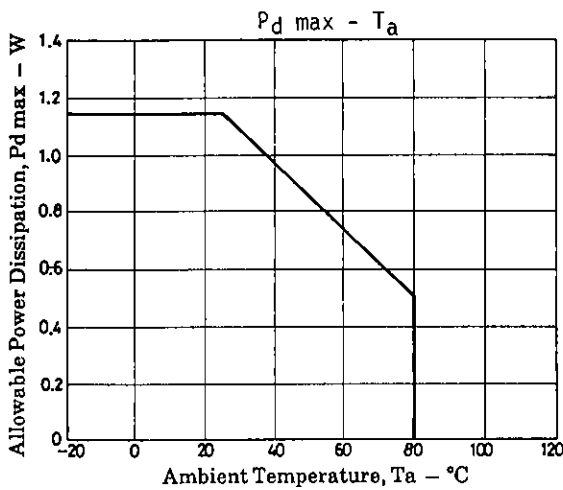
Package Dimensions 3004A-D14TKIC (unit: mm)



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| ELECTRICAL CHARACTERISTICS/ $T_a = 25^\circ\text{C}$, pin 7 = 0 V | | | min | typ | max | unit |
|--|---------------|---|-----|-----|-----|---------------|
| Output voltage | $V_{OUT}(1)$ | $V_{IN} = 9.0\text{ V}, I_{OUT} = 150\text{ mA}$ | | | 1.7 | V |
| | $V_{OUT}(2)$ | $V_{IN} = 9.0\text{ V}, I_{OUT} = 100\text{ mA}$ | | | 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 | μA |
| Input current | $I_{IN}(1)$ | $V_{IN} = 18\text{ V}$ | | | 1.8 | mA |
| | $I_{IN}(2)$ | $V_{IN} = 9.0\text{ V}$ | | | 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 | | | μA |
| Spark killer diode leakage current | $I_{leak}(s)$ | $V_{OUT} = 0\text{ V}, \text{pin } 8 = 20\text{ V}$ | | | 30 | μA |
| Spark killer diode forward voltage | $V_F(s)$ | $I_F(s) = 150\text{ mA}$ | | | 1.7 | V |



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