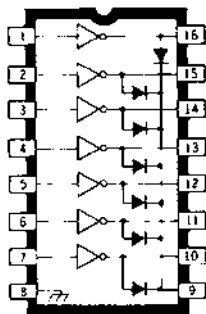


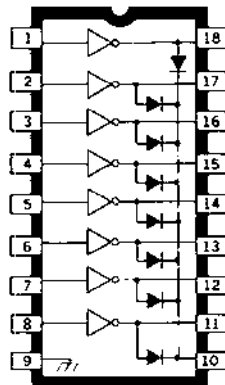
SERIES 2000 and 2800 DARLINGTON ARRAYS

These high-voltage, high-current Darlington transistor arrays are comprised of seven or eight silicon NPN Darlington pairs on a common monolithic substrate. All units feature open collector outputs and integral suppression diodes for inductive loads. Peak inrush currents to 600 mA are allowable, making them ideal for driving tungsten filament lamps as well.

INCLUDES TYPES:	2001	2014	2801	2814
	2002	2015	2802	2815
	2003	2021	2803	2821
	2004	2022	2804	2822
	2005	2023	2805	2823
	2011	2024	2811	2824
	2012	2025	2812	2825
	2013		2813	



**2000 SERIES
PINNING**



**2800 SERIES
PINNING**

FEATURES

- Output Voltage Up To 95 V
- Output Currents to 600 mA (saturated)
- Integral Suppression Diodes for Inductive Loads
- Inputs Compatible with DTL, TTL, PMOS, CMOS
- Package Power Dissipation to 2.25 W
- Inputs Pinned Opposite Outputs - Lower PC Board Costs
- Able to Switch Loads of 125 W at +70°C
- Hermetically-Sealed Package to MIL-M-38510
- High Reliability Screening to MIL-STD-883
- Operating Temperature Range:
 - °C to +70°C (ULN Series)
 - 55°C to +125°C (ULS Series)
- Two Package Configurations:
 - Plastic Dual In-Line A
 - Hermetic Dual In-Line H

SELECTION GUIDE

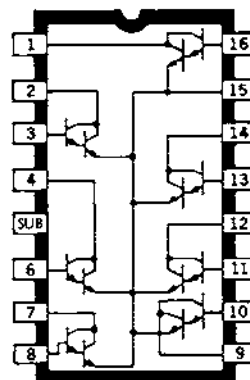
	V _{CE(MAX)} = I _{C(MAX)} =	50 V 500 mA	50 V 600 mA	95 V 500 mA
Input Compatibility		Type No.		
General Purpose PMOS, CMOS		2001/2801	2011/2811	2021/2821
15 - 25 V PMOS		2002/2802	2012/2812	2022/2822
5 V TTL CMOS		2003/2803	2013/2813	2023/2823
6 - 15 V CMOS, PMOS		2004/2804	2014/2814	2024/2824
High Output TTL		2005/2805	2015/2815	2025/2825

TYPE ULN-2031A, ULN-2032A, and ULN-2033A

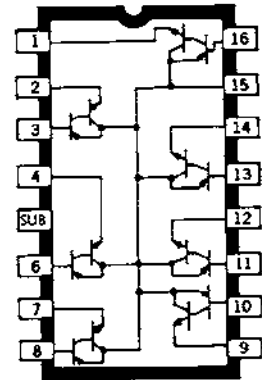
Type ULN-2031A, ULN-2032A, and ULN-2033A high-current Darlington transistor arrays are comprised of seven Darlington pairs on a common monolithic substrate. The Type ULN-2031A consists of 14 NPN transistors connected to form seven Darlington pairs with NPN action. The Type ULN-2032A ($h_{FE} = 500$ min.) and the Type ULN-2033A ($h_{FE} = 50$ min.) consist of seven NPN and seven PNP transistors connected to form seven Darlington pairs with PNP action. All devices feature a common emitter configuration.

These devices are especially suited for interfacing between MOS, TTL, or DTL outputs and 7-segment LED or tungsten filament indicators. Peak inrush currents to 100 mA are allowable. They are also ideal for a variety of other driver applications such as relay control and thyristor firing.

These arrays are housed in a plastic 16-pin dual in-line A package and are designed for 0°C to +70°C operation.



ULN-2031A



**ULN-2032A
ULN-2033A**