

DARLINGTON ARRAYS

- EIGHT DARLINGTONS PER PACKAGE
- OUTPUT CURRENT 400 mA PER DRIVER (500mA PEAK)
- OUTPUT VOLTAGE 90 V (V_{CE (sus)}) = 70 V)
- INTEGRAL SUPPRESSION DIODES FOR INDUCTIVE LOADS
- OUTPUTS CAN BE PARALLELED FOR HIGHER CURRENT
- TTL / CMOS INPUTS
- INPUTS PINNED OPPOSITE OUTPUTS TO SIMPLIFY LAYOUT

DIP18 ORDERING NUMBERS: L603C L604C

DESCRIPTION

The L603 and L604 are high voltage, high current darlington arrays each containing eight open collector darlington pairs with common emitters. Each channel is rated at 400mA and can with stand peak currents of 500 mA.

Suppression diodes are included for inductive load driving and the inputs are pinned opposite the outputs to simplify board layout.

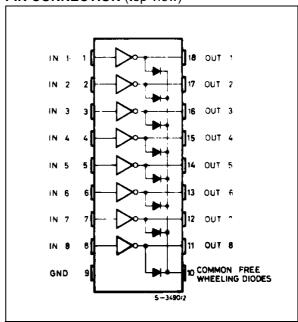
The four versions interface to all common logic families:

L603 = 5V TTL

L604 = 6 - 15V CMOS

These versatile devices are useful for driving a wide range of loads, including solenoids, relays DC motors, LED displays, filament lamps, thermal printheads and high power buffers.

PIN CONNECTION (top view)



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V _{CEX}	Collector Emitter Voltage (input open)	90	V
I _C	Collector Current	0.4	А
Ic	Collector Peak Current	0.5	А
Vi	Input Voltage (for L603 and L604)	30	V
P _{tot}	Total Power Dissipation a T _{amb} = 25°C	1.8	W
T _{op}	Operating Junction Temperature	-25 to 150	°C

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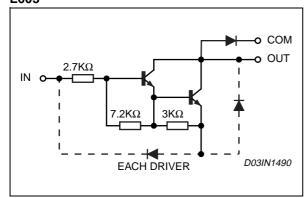
THERMAL DATA

Ī	Symbol	Parameter	Value	Unit
Ī	R _{th-j amb}	Thermal Resistance Junction ambient	max 70	°C/W

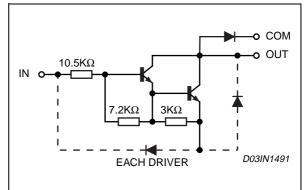
ELECTRICAL CHARACTERISTCS

Parameter	Test Condition	Min.	Тур.	Max.	Unit
Output Leakage Current	V _{CE} = 90V			10	μΑ
Collector Emitter Saturation	$I_C = 300 \text{mA}; I_B = 500 \mu\text{A}$			2	V
voltage	$I_C = 200 \text{mA}; I_B = \mu \text{A}$			1.7	V
	I _C = 100mA; I _B = 250μA			1.2	V
Maximum Input Voltage (ON condition)	V _{CE} = 3V; I _C = 300mA L603 L604			2.5 5	V
Maximum Input Voltage (OFF condition)	V _{CE} = 90V; I _C = 25μA L603 L604	0.75 1			V
Clamp Diode Reverse Current	V _R = 90V			50	μΑ
Clamp Diode Forward Voltage	I _F = 300mA		2	2.4	V
Turn-on Delay	0.5 V _i to 0.5 V _o		0.4		μs
Turn-off Delay	0.5 V _i to 0.5 V _o		0.4		μΑ
	Output Leakage Current Collector Emitter Saturation Voltage Maximum Input Voltage (ON condition) Maximum Input Voltage (OFF condition) Clamp Diode Reverse Current Clamp Diode Forward Voltage Turn-on Delay			$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	$\begin{tabular}{l lllllllllllllllllllllllllllllllllll$

L603



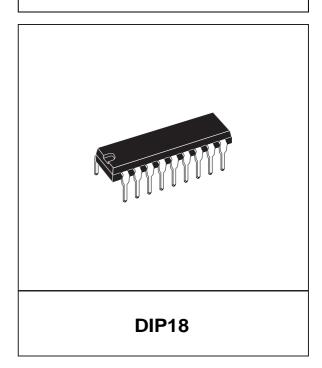
L604

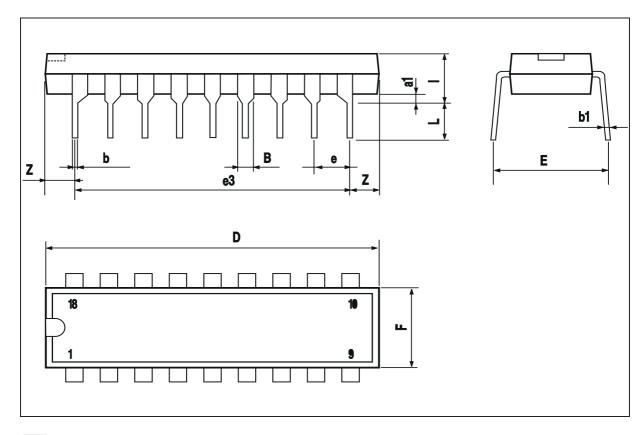


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DIM.	mm		inch			
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.254			0.010		
В	1.39		1.65	0.055		0.065
b		0.46			0.018	
b1		0.25			0.010	
D			23.24			0.915
Е		8.5			0.335	
е		2.54			0.100	
e3		20.32			0.800	
F			7.1			0.280
I			3.93			0.155
L		3.3			0.130	
Z		1.27	1.59		0.050	0.063

OUTLINE AND MECHANICAL DATA





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