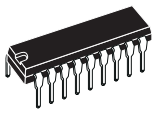
L603 - L604

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



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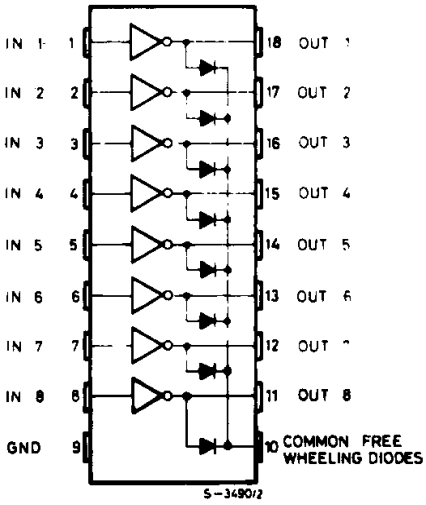
ORDERING NUMBERS: L603C L604C

PIN CONNECTION (top view)



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.

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CEX}	Collector Emitter Voltage (input open)	90	V
I_C	Collector Current	0.4	A
I_C	Collector Peak Current	0.5	A
V_i	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

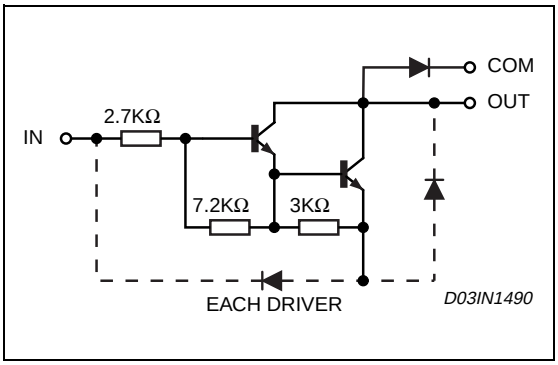
THERMAL DATA

Symbol	Parameter	Value	Unit
$R_{th\text{-}j\ amb}$	Thermal Resistance Junction ambient	max 70	°C/W

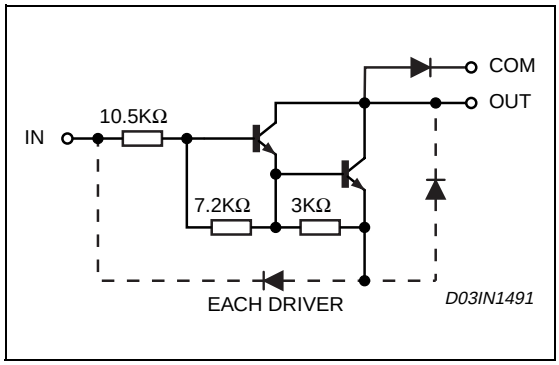
ELECTRICAL CHARACTERISTCS

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
I_{CEX}	Output Leakage Current	V_{CE} = 90V			10	µA
$V_{CE(sat)}$	Collector Emitter Saturation Voltage	I_C = 300mA; I_B = 500µA			2	V
		I_C = 200mA; I_B = µA			1.7	V
		I_C = 100mA; I_B = 250µA			1.2	V
V_i	Maximum Input Voltage (ON condition)	V_{CE} = 3V; I_C = 300mA L603 L604			 2.5 5	 V V
V_i	Maximum Input Voltage (OFF condition)	V_{CE} = 90V; I_C = 25µA L603 L604	 0.75 1			 V V
I_R	Clamp Diode Reverse Current	V_R = 90V			50	µA
V_F	Clamp Diode Forward Voltage	I_F = 300mA		2	2.4	V
t_{on}	Turn-on Delay	0.5 V_i to 0.5 V_o		0.4		µs
t_{off}	Turn-off Delay	0.5 V_i to 0.5 V_o		0.4		µA

L603

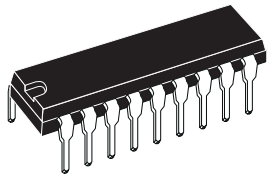


L604



DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
a1	0.254			0.010		
B	1.39		1.65	0.055		0.065
b		0.46			0.018	
b1		0.25			0.010	
D			23.24			0.915
E		8.5			0.335	
e		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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