

TIP112

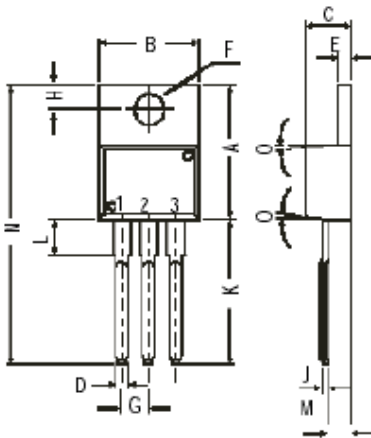
Darlington Transistors



Features:

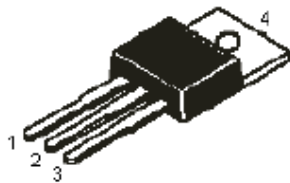
- NPN Plastic Power Transistors.
- General Purpose Darlington Amplifier and Low Speed Switching Applications.

TO-220 Plastic Package



Dimensions	Minimum	Maximum
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D	-	0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J	-	0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N	-	31.24
O	7°	

Dimensions : Millimetres



Pin Configuration:

1. Base
2. Collector
3. Emitter
4. Collector



Absolute Maximum Ratings

Limiting Values	Symbol		TIP112	Unit		
Collector-Base Voltage (Open Emitter)	V_{CBO}	Maximum	100	V		
Collector-Emitter Voltage (Open Base)	V_{CEO}					
Collector Current	I_C				2.0	A
Total Power Dissipation upto $T_C = 25^\circ\text{C}$	P_{tot}				50	W
Junction Temperature	T_j				150	$^\circ\text{C}$
Collector-Emitter Saturation Voltage $I_C = 2\text{A}$, $I_B = 8\text{mA}$	$V_{CE(Sat)}$				2.5	V
DC Current Gain $I_C = 1\text{A}$; $V_{CE} = 4\text{V}$	h_{FE}	Minimum	1000	-		

Ratings (at $T_A = 25^\circ\text{C}$ unless otherwise specified)

Limiting Values	Symbol		TIP112	Unit
Collector-Base Voltage (Open Emitter)	V_{CBO}	Maximum	100	V
Collector-Emitter Voltage (Open Base)	V_{CEO}			
Emitter-Base Voltage (Open Collector)	V_{EBO}			
Collector Current	I_C		2.0	A
Collector Current (Peak)	I_{CM}		4.0	
Base Current	I_B		50	mA
Total Power Dissipation upto $T_C = 25^\circ\text{C}$ Total Power Dissipation upto $T_A = 25^\circ\text{C}$	P_{tot}		50 2.0	W
Junction Temperature	T_j		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-	-65 to +150
Thermal Resistance				
From Junction to Case	$R_{th(j-c)}$	-	25	$^\circ\text{C/W}$
From Junction to Ambient	$R_{th(j-a)}$	-	62.5	

TIP112

Darlington Transistors



Characteristics ($T_{amb} = 25^{\circ}\text{C}$ unless otherwise specified)

Limiting Values	Symbol		TIP112	Unit
Collector Cut off Current $I_B = 0; V_{CE} = \text{half rated } V_{CEO}$ $I_E = 0; V_{CB} = \text{rated } V_{CBO}$	I_{CEO} I_{CBO}	Maximum	2.0 1.0	mA
Emitter Cut off Current $I_C = 0; V_{EB} = 5V$	I_{EBO}		2.0	
Breakdown Voltages $I_C = 30\text{mA}; I_B = 0$ $I_C = 1\text{mA}; I_E = 0$ $I_E = 1\text{mA}; I_C = 0$	$V_{CEO} (\text{Sus})^*$ V_{CBO} V_{EBO}	Minimum	100 100 5.0	V
Saturation Voltage $I_C = 2A; I_B = 8\text{mA}$	$V_{CE} (\text{sat})^*$	Maximum	2.5	
Base Emitter On Voltage $I_C = 2A; V_{CE} = 4V$	$V_{BE} (\text{on})^*$		2.8	
DC Current Gain $I_C = 1A; V_{CE} = 4V$ $I_C = 2A; V_{CE} = 4V$	h_{FE}^*	Minimum	1000 500	-

* Pulse Test: Pulse Duration = 300 μs , Duty Cycle $\leq 2\%$.

Part Number Table

Package	Part Number
TO-220	TIP112



Notes:

International Sales Offices:



AUSTRALIA - Farnell
Tel No: ++61 1300 361 005
Fax No: ++61 1300 361 225



FINLAND - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ITALY - Farnell
Tel No: ++39 02 93 995 200
Fax No: ++39 02 93 995 300



SPAIN - Farnell
Tel No: 901 20 20 80
Fax No: 901 20 20 90



AUSTRIA - Farnell
Tel No: ++43 662 2180 680
Fax No: ++43 662 2180 670



FRANCE - Farnell
Tel No: ++33 474 68 99 99
Fax No: ++33 474 68 99 90



MALAYSIA - Farnell-Newark
Tel No: ++60 3 7873 8000
Fax No: ++60 3 7873 7000



SWEDEN - Farnell
Tel No: ++46 8 730 50 00
Fax No: ++46 8 83 52 62



BELGIUM - Farnell
Tel No: ++32 3 475 2810
Fax No: ++32 3 227 3648



GERMANY - Farnell
Tel No: ++49 89 61 39 39 39
Fax No: ++49 89 613 59 01



NETHERLANDS - Farnell
Tel No: ++31 30 241 7373
Fax No: ++31 30 241 7333



SWITZERLAND - Farnell
Tel No: ++44 204 64 64
Fax No: ++44 204 64 54



BRAZIL - Farnell-Newark
Tel No: ++55 11 4066 9400
Fax No: ++55 11 4066 9410



HONG KONG - Farnell-Newark
Tel No: ++852 2268 9888
Fax No: ++852 2268 9899



NEW ZEALAND - Farnell
Tel No: 0800 90 80 80
Fax No: 0800 90 80 81



UK - Farnell
Tel No: ++44 8701 200 200
Fax No: ++44 8701 200 201



CHINA - Farnell-Newark
Tel No: ++86 10 6238 5152
Fax No: ++86 10 6238 5022



HUNGARY - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



NORWAY - Farnell
Tel No: 800 146 70
Fax No: 800 146 76



UK - CPC
++44 8701 202 530
++44 8701 202 531



CZECH REPUBLIC - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



INDIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



PORTUGAL - Farnell
Tel No: ++34 93 475 8804
Fax No: ++34 93 474 5288



USA - Newark
Tel No: 800 463 9275



DENMARK - Farnell
Tel No: ++45 44 53 66 44
Fax No: ++45 44 53 66 06



IRELAND - Farnell
Tel No: ++353 1 830 9277
Fax No: ++353 1 830 9016



RUSSIA - Farnell
Tel No: ++44 870 1200 208
Fax No: ++44 870 1200 209



EXPORT - Farnell
Tel No: ++44 8701 200 208
Fax No: ++44 8701 200 209

For enquiries from all other markets



ESTONIA - Farnell
Tel No: ++358 9 560 7780
Fax No: ++358 9 345 5411



ISRAEL - Farnell
Tel No: ++180 937 0015
Fax No: ++180 937 0014



SINGAPORE - Farnell-Newark
Tel No: ++65 6788 0200
Fax No: ++65 6788 0300

<http://www.farnell.com>
<http://www.newark.com>
<http://www.cpc.co.uk>

Disclaimer This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2008.