

MJE700 THRU MJE703 PNP  
MJE800 THRU MJE803 NPN

**COMPLEMENTARY  
POWER DARLINGTON TRANSISTORS**



**TO-126 CASE**



[www.centrasemi.com](http://www.centrasemi.com)

**DESCRIPTION:**

The CENTRAL SEMICONDUCTOR MJE700, MJE800 series devices are medium power complementary silicon Darlington transistors designed for audio amplifier applications as complementary output devices.

**MARKING: FULL PART NUMBER**

	SYMBOL	MJE700	MJE702	UNITS
		MJE701	MJE703	
MAXIMUM RATINGS: ( $T_C=25^\circ\text{C}$ )		MJE800	MJE802	
		MJE801	MJE803	
Collector-Base Voltage	$V_{CB0}$	60	80	V
Collector-Emitter Voltage	$V_{CEO}$	60	80	V
Emitter-Base Voltage	$V_{EBO}$		5.0	V
Continuous Collector Current	$I_C$		4.0	A
Continuous Base Current	$I_B$		100	mA
Power Dissipation	$P_D$		40	W
Operating and Storage Junction Temperature	$T_J, T_{stg}$		-65 to +150	$^\circ\text{C}$
Thermal Resistance	$\theta_{JC}$		3.13	$^\circ\text{C/W}$

**ELECTRICAL CHARACTERISTICS: ( $T_C=25^\circ\text{C}$  unless otherwise noted)**

SYMBOL	TEST CONDITIONS	MIN	MAX	UNITS
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CB0}$		100	$\mu\text{A}$
$I_{CBO}$	$V_{CB}=\text{Rated } V_{CB0}, T_C=100^\circ\text{C}$		500	$\mu\text{A}$
$I_{CEO}$	$V_{CE}=\text{Rated } V_{CEO}$		100	$\mu\text{A}$
$I_{EBO}$	$V_{EB}=5.0\text{V}$		2.0	mA
$BV_{CEO}$	$I_C=50\text{mA}$ (MJE702,703,802,803)	80		V
$BV_{CEO}$	$I_C=50\text{mA}$ (MJE700,701,800,801)	60		V
$V_{CE}(\text{SAT})$	$I_C=1.5\text{A}, I_B=30\text{mA}$ (MJE700,702,800,802)		2.5	V
$V_{CE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=40\text{mA}$ (MJE701,703,801,803)		2.8	V
$V_{CE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$		3.0	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (MJE700,702,800,802)		2.5	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$ (MJE701,703,801,803)		2.5	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$		3.0	V
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (MJE700,702,800,802)	750		
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$ (MJE701,703,801,803)	750		
$h_{FE}$	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	100		
$f_T$	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}, f=1.0\text{MHz}$	1.0		MHz

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TO-126 CASE - MECHANICAL OUTLINE



LEAD CODE:

- 1) Emitter
- 2) Collector
- 3) Base

MARKING:

FULL PART NUMBER

SYMBOL	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.094	0.110	2.40	2.80
B	0.050		1.27	
C	0.015	0.030	0.38	0.75
D	0.291	0.335	7.40	8.50
E	0.148		3.75	
F	0.118	0.134	3.00	3.40
G	0.413	0.472	10.50	12.00
H	0.618		15.70	
J	0.024	0.035	0.62	0.90
K	0.089		2.25	
L	0.177		4.50	
M	0.045	0.055	1.14	1.40
N	0.083		2.10	

TO-126 (REV:R3)

R2 (23-January 2014)

## OUTSTANDING SUPPORT AND SUPERIOR SERVICES



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### PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

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### DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2<sup>nd</sup> day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

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### REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

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### CONTACT US

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