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Manufacturers of World Class Discrete Semiconductors

MJE700 THRU MJE703 PNP
MJE800 THRU MJE803 NPN

SILICON POWER DARLINGTON
COMPLEMENTARY TRANSISTORS

JEDEC TO-126 CASE

DESCRIPTION

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

MAXIMUM RATINGS ($T_C=25^\circ\text{C}$)

	SYMBOL	MJE700 MJE800	MJE701 MJE801	MJE702 MJE802	MJE703 MJE803	UNIT
Collector-Base Voltage	V_{CB0}	60		80		V
Collector-Emitter Voltage	V_{CE0}	60		80		V
Emitter-Base Voltage	V_{EB0}		5.0			V
Collector Current	I_C		4.0			A
Base Current	I_B		0.1			A
Power Dissipation	P_D		40			W
Operating and Storage Junction Temperature	T_J, T_{STG}		-55 to +150			$^\circ\text{C}$
Thermal Resistance	θ_{JC}		3.13			$^\circ\text{C}/\text{W}$

SYMBOL	TEST CONDITIONS	MJE700 MJE701 MJE800 MJE801		MJE702 MJE703 MJE802 MJE803		UNIT
		MIN	MAX	MIN	MAX	
I_{CB0}	$V_{CB}=\text{Rated } BV_{CB0}$		100		100	μA
I_{CB0}	$V_{CB}=\text{Rated } BV_{CB0}, T_C=100^\circ\text{C}$		500		500	μA
I_{CE0}	$V_{CE}=\text{Rated } V_{CE0}$		100		100	μA
I_{EB0}	$V_{BE}=5.0\text{V}$		2.0		2.0	mA
BV_{CE0}	$I_C=50\text{mA}$	60		80		V
$V_{CE}(\text{SAT})$	$I_C=1.5\text{A}, I_B=30\text{mA}$ (MJE700, MJE702, MJE800, MJE802)		2.5		2.5	V
$V_{CE}(\text{SAT})$	$I_C=2.0\text{A}, I_B=40\text{mA}$ (MJE701, MJE703, MJE801, MJE803)		2.8		2.8	V
$V_{CE}(\text{SAT})$	$I_C=4.0\text{A}, I_B=40\text{mA}$		3.0		3.0	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (MJE700, MJE702, MJE800, MJE802)		2.5		2.5	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$ (MJE701, MJE703, MJE801, MJE803)		2.5		2.5	V
$V_{BE}(\text{ON})$	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$		3.0		3.0	V
h_{FE}	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}$ (MJE700, MJE702, MJE800, MJE802)	750		750		
h_{FE}	$V_{CE}=3.0\text{V}, I_C=2.0\text{A}$ (MJE701, MJE703, MJE801, MJE803)	750		750		
h_{FE}	$V_{CE}=3.0\text{V}, I_C=4.0\text{A}$	100		100		
f_T	$V_{CE}=3.0\text{V}, I_C=1.5\text{A}, f=1.0\text{MHz}$	1.0		1.0		MHz