Data Sheet

Central Semiconductor Corp.

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Manufacturers of World Class Discrete Semiconductors

MJE170 MJE171 MJE172 PNP
MJE180 MJE181 MJE182 NPN

SILICON COMPLEMENTARY
POWER TRANSISTOR

JEDEC TO-126 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR MJE170, MJE180 series types are complementary Silicon Plastic Power Transistors designed for audio and high speed switching applications.

MAXIMUM RATINGS (T_C=25°C unless otherwise noted)

	SYMBOL	MJE170 MJE180	MJE171 MJE181	MJE172 MJE182	UNIT
Collector-Base Voltage	V_{CBO}	60	80	100	V
Collector-Emitter Voltage	V_{CEO}	40	60	80	V
Emitter-Base Voltage	V_{EBO}	7.0	7.0	7.0	V
Collector Current	I_C	3.0	3.0	3.0	A
Collector Current (Peak)	I_{CM}	6.0	6.0	6.0	A
Base Current	I_B	1.0	1.0	1.0	A
Power Dissipation (T_A=25°C)	P_D	1.5	1.5	1.5	W
Power Dissipation	P_D	15	15	15	W
Operating and Storage Junction Temperature	T_J, T_{stg}		-65 TO +150		°C
Thermal Resistance	θ_{JA}		83		°C/W
Thermal Resistance	θ_{JC}		8.3		°C/W

ELECTRICAL CHARACTERISTICS (T_C=25°C unless otherwise noted)

SYMBOL	TEST CONDITIONS	MIN	MAX	UNIT
I_{CBO}	V_{CB}=Rated V_{CBO}		0.1	μA
I_{CBO}	V_{CB}=Rated V_{CBO}, T_C=150°C		0.1	mA
I_{EBO}	V_{BE}=7.0V		0.1	μA
BV_{CEO}	I_C=10mA, (MJE170, MJE180)	40		V
BV_{CEO}	I_C=10mA, (MJE171, MJE181)	60		V
BV_{CEO}	I_C=10mA, (MJE172, MJE182)	80		V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA		0.3	V
$V_{CE(SAT)}$	I_C=1.5A, I_B=150mA		0.9	V
$V_{CE(SAT)}$	I_C=3.0A, I_B=600mA		1.7	V
$V_{BE(SAT)}$	I_C=1.5A, I_B=150mA		1.5	V
$V_{BE(SAT)}$	I_C=3.0A, I_B=600mA		2.0	V
$V_{BE(ON)}$	V_{CE}=1.0V, I_C=500mA		1.2	V
h_{FE}	V_{CE}=1.0V, I_C=100mA	50	250	
h_{FE}	V_{CE}=1.0V, I_C=500mA	30		
h_{FE}	V_{CE}=1.0V, I_C=1.5A	12		
f_T	V_{CE}=10V, I_C=100mA, f=10MHz	50		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz (NPN)		30	pF
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz (PNP)		50	pF

OUTSTANDING SUPPORT AND SUPERIOR SERVICES

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

DESIGNER SUPPORT/SERVICES

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

- Free quick ship samples (2nd 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

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).

CONTACT US

Corporate Headquarters & Customer Support Team

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