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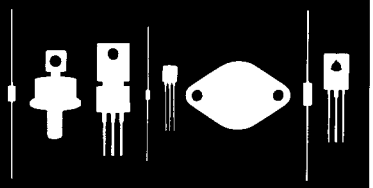

MJE230 THRU MJE235

PNP SILICON POWER TRANSISTOR

JEDEC TO-126 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR MJE230 series types are PNP silicon power transistors manufactured by the epitaxial-base process designed for general purpose amplifier and switching applications.

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

	SYMBOL	MJE230 MJE231 MJE232	MJE233 MJE234 MJE235	UNIT
Collector-Base Voltage	V_{CBO}	60	80	V
Collector-Emitter Voltage	V_{CEO}	40	60	V
Emitter-Base Voltage	V_{EBO}	7.0	7.0	V
Collector Current	I_C	4.0	4.0	A
Collector Current (PEAK)	I_{CM}	8.0	8.0	A
Base Current	I_B	1.0	1.0	A
Power Dissipation	P_D	1.5	1.5	W
Power Dissipation (T_C=25°C)	P_D	15	15	W
Operating and Storage Junction Temperature	T_J, T_{STG}	-65 to +150		°C
Thermal Resistance	ΘJA	83.4		°C/W
Thermal Resistance	ΘJC	8.34		°C/W

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

SYMBOL	TEST CONDITIONS		MIN	MAX	UNIT
I_{CBO}	V_{CB}=60V	(MJE230, MJE231, MJE232)		0.1	μA
I_{CBO}	V_{CB}=80V	(MJE233, MJE234, MJE235)		0.1	μA
I_{CBO}	V_{CB}=60V, T_C=125°C	(MJE230, MJE231, MJE232)		0.1	mA
I_{CBO}	V_{CB}=80V, T_C=125°C	(MJE233, MJE234, MJE235)		0.1	mA
I_{EBO}	V_{BE}=7.0V			0.1	μA
BV_{CEO}	I_C=10mA	(MJE230, MJE231, MJE232)	40		V
BV_{CEO}	I_C=10mA	(MJE233, MJE234, MJE235)	60		V
$V_{CE(SAT)}$	I_C=500mA, I_B=50mA			0.3	V
$V_{CE(SAT)}$	I_C=1.0A, I_B=100mA	(MJE231, MJE234)		0.6	V
$V_{CE(SAT)}$	I_C=2.0A, I_B=200mA	(MJE230, MJE233)		0.8	V
$V_{CE(SAT)}$	I_C=4.0A, I_B=1.0mA			2.5	V
$V_{BE(SAT)}$	I_C=2.0A, I_B=200mA			1.8	V
$V_{BE(ON)}$	V_{CE}=1.0V, I_C=500mA			1.5	V
h_{FE}	V_{CE}=1.0V, I_C=200mA	(MJE230, MJE233)	40	200	
h_{FE}	V_{CE}=1.0V, I_C=200mA	(MJE231, MJE234)	40	150	
h_{FE}	V_{CE}=1.0V, I_C=200mA	(MJE232, MJE235)	25	-	
h_{FE}	V_{CE}=1.0V, I_C=1.0A	(MJE231, MJE234)	20	-	
h_{FE}	V_{CE}=1.0V, I_C=1.0A	(MJE232, MJE235)	10	-	
h_{FE}	V_{CE}=1.0V, I_C=2.0A	(MJE230, MJE233)	20	-	
f_T	V_{CE}=10V, I_C=100mA, f=10MHz		10 TYP		MHz
C_{ob}	V_{CB}=10V, I_E=0, f=0.1MHz			70	pF

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