

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.
SPRINGFIELD, NEW JERSEY 07081
U.S.A.

TELEPHONE: (973) 376-2922
(212) 227-6005
FAX: (973) 376-8960

MJE15032 (NPN), MJE15033 (PNP)

Complementary Silicon Plastic Power Transistors

Designed for use as high-frequency drivers in audio amplifiers.

Features

- DC Current Gain Specified to 5.0 Amperes
 $h_{FE} = 70$ (Min) @ $I_C = 0.5$ Adc
 $= 10$ (Min) @ $I_C = 2.0$ Adc
- Collector-Emitter Sustaining Voltage –
 $V_{CEO(sus)} = 250$ Vdc (Min) – MJE15032, MJE15033
- High Current Gain – Bandwidth Product
 $f_T = 30$ MHz (Min) @ $I_C = 500$ mA
- TO-220AB Compact Package
- Epoxy Meets UL 94 V-0 @ 0.125 in
- ESD Ratings: Machine Model C
Human Body Model 3B

**8.0 AMPERES
POWER TRANSISTORS
COMPLEMENTARY SILICON
250 VOLTS, 50 WATTS**

MAXIMUM RATINGS

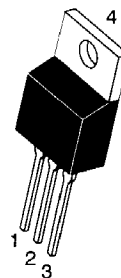
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V_{CEO}	250	Vdc
Collector-Base Voltage	V_{CB}	250	Vdc
Emitter-Base Voltage	V_{EB}	5.0	Vdc
Collector Current – Continuous – Peak	I_C	8.0 16	Adc
Base Current	I_B	2.0	Adc
Total Power Dissipation @ $T_C = 25^\circ\text{C}$ Derate above 25°C	P_D	50 0.40	W W/ $^\circ\text{C}$
Total Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	2.0 0.016	W W/ $^\circ\text{C}$
Operating and Storage Junction Temperature Range	T_J, T_{stg}	-65 to +150	$^\circ\text{C}$

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.5	$^\circ\text{C/W}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	$^\circ\text{C/W}$

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



TO-220



Quality Semi-Conductors

MJE15032 (NPN), MJE15033 (PNP)

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Collector-Emitter Sustaining Voltage (Note 1) ($I_C = 10\text{ mAdc}$, $I_B = 0$)	$V_{CEO(sus)}$	250	–	Vdc
Collector Cutoff Current ($V_{CB} = 250\text{ Vdc}$, $I_E = 0$)	I_{CBO}	–	10	μAdc
Emitter Cutoff Current ($V_{BE} = 5.0\text{ Vdc}$, $I_C = 0$)	I_{EBO}	–	10	μAdc
ON CHARACTERISTICS (Note 1)				
DC Current Gain ($I_C = 0.5\text{ Adc}$, $V_{CE} = 5.0\text{ Vdc}$) ($I_C = 1.0\text{ Adc}$, $V_{CE} = 5.0\text{ Vdc}$) ($I_C = 2.0\text{ Adc}$, $V_{CE} = 5.0\text{ Vdc}$)	h_{FE}	70 50 10	– – –	–
Collector-Emitter Saturation Voltage ($I_C = 1.0\text{ Adc}$, $I_B = 0.1\text{ Adc}$)	$V_{CE(sat)}$	–	0.5	Vdc
Base-Emitter On Voltage ($I_C = 1.0\text{ Adc}$, $V_{CE} = 5.0\text{ Vdc}$)	$V_{BE(on)}$	–	1.0	Vdc
DYNAMIC CHARACTERISTICS				
Current Gain – Bandwidth Product (Note 2) ($I_C = 500\text{ mAdc}$, $V_{CE} = 10\text{ Vdc}$, $f_{test} = 1.0\text{ MHz}$)	f_T	30	–	MHz

1. Pulse Test: Pulse Width $\leq 300\text{ }\mu\text{s}$, Duty Cycle $\leq 2.0\%$.

2. $f_T = |h_{fe}| \cdot f_{test}$.