Complementary Silicon Plastic Power Transistors

TO-220, NPN & PNP Devices

MJE15034 (NPN), MJE15035 (PNP)

Complementary silicon plastic power transistors are designed for use as high-frequency drivers in audio amplifiers.

Features

- High Current Gain Bandwidth Product
- TO-220 Compact Package

MAXIMUM BATINGS

- Epoxy meets UL 94 V-0 @ 0.125 in
- These Devices are Pb-Free and are RoHS Compliant*

MAXIMUM RATINGS			
Rating	Symbol	Value	Unit
Collector-Emitter Voltage	V _{CEO}	350	Vdc
Collector-Base Voltage	V _{CB}	350	Vdc
Emitter-Base Voltage	V _{EB}	5.0	Vdc
Collector Current – Continuous	I _C	4.0	Adc
Collector Current – Peak	I _{CM}	8.0	Adc
Base Current	Ι _Β	1.0	Adc
Total Power Dissipation @ T _C = 25°C Derate above 25°C	P _D	50 0.40	W W/°C
Total Power Dissipation @ T _A = 25°C Derate above 25°C	P _D	2.0 0.016	W W/°C
Operating and Storage Junction Temperature Range	T _J , T _{stg}	-65 to +150	°C
ESD – Human Body Model	HBM	3B	V
ESD – Machine Model	MM	С	V

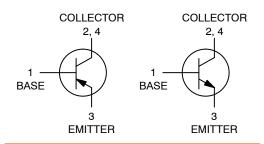
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

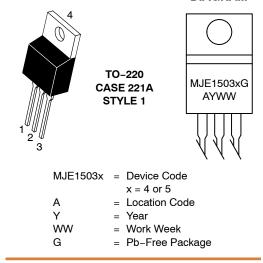
Characteristic	Symbol	Max	Unit
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$	2.5	°C/W
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	62.5	°C/W

4.0 AMPERES POWER TRANSISTORS COMPLEMENTARY SILICON 350 VOLTS, 50 WATTS

COMPLEMENTARY



MARKING DIAGRAM



ORDERING INFORMATION

Device	Package	Shipping
MJE15034G	TO-220 (Pb-Free)	50 Units / Rail
MJE15035G	TO-220 (Pb-Free)	50 Units / Rail

+For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, <u>BRD8011/D.</u>

*For additional information on our Pb–Free strategy and soldering details, please download the **onsemi** Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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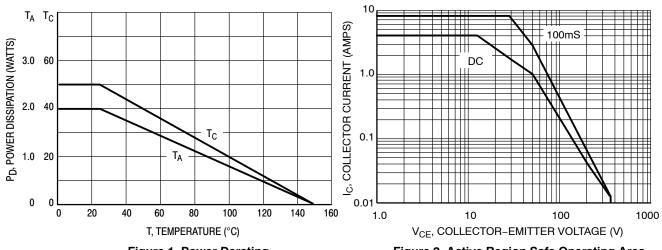
ELECTRICAL CHARACTERISTICS ($T_C = 25^{\circ}C$ unless otherwise noted)

Characteristic		Symbol	Min	Max	Unit			
OFF CHARACTERISTICS								
Collector-Emitter Sustaining Voltage (Note 1)	$(I_{C} = 10 \text{ mAdc}, I_{B} = 0)$	V _{CEO(sus)}	350	-	Vdc			
Collector Cutoff Current	$(V_{CB} = 350 \text{ Vdc}, I_E = 0)$	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		h _{FE}	100 100 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			•	•	•			
					1			

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

1. Pulse Test: Pulse Width \leq 300 µs, Duty Cycle \leq 2.0%.

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







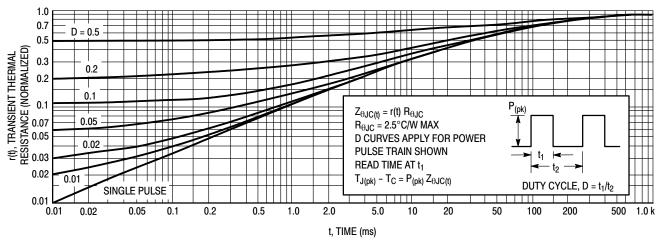
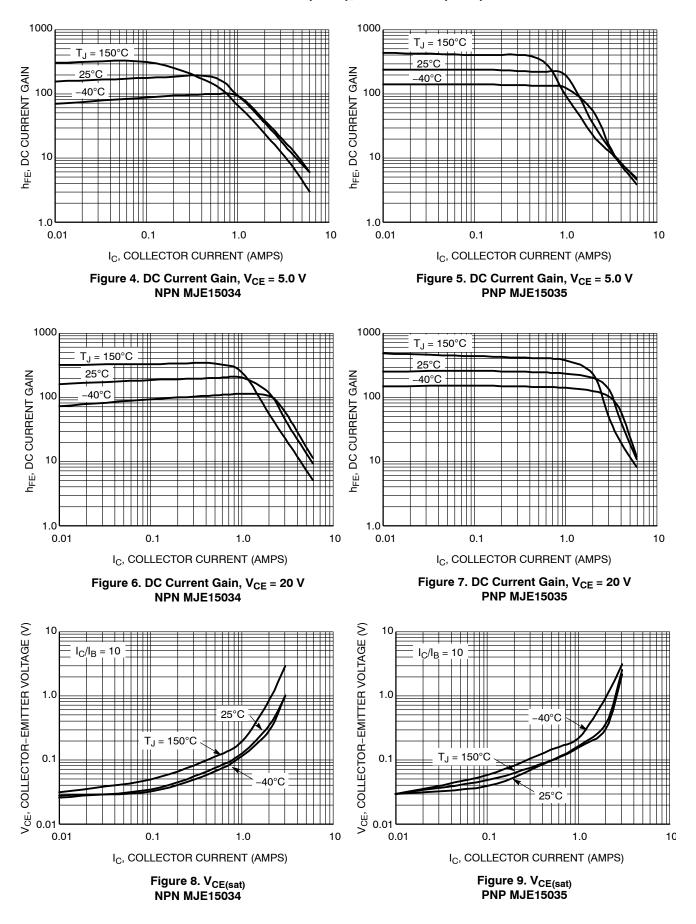
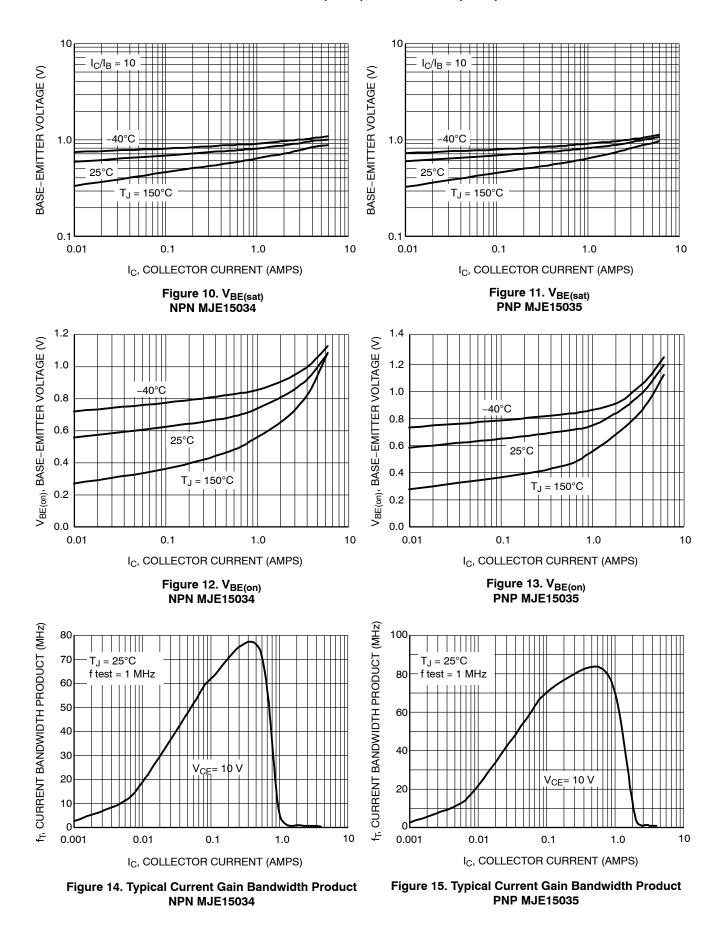


Figure 3. Thermal Response

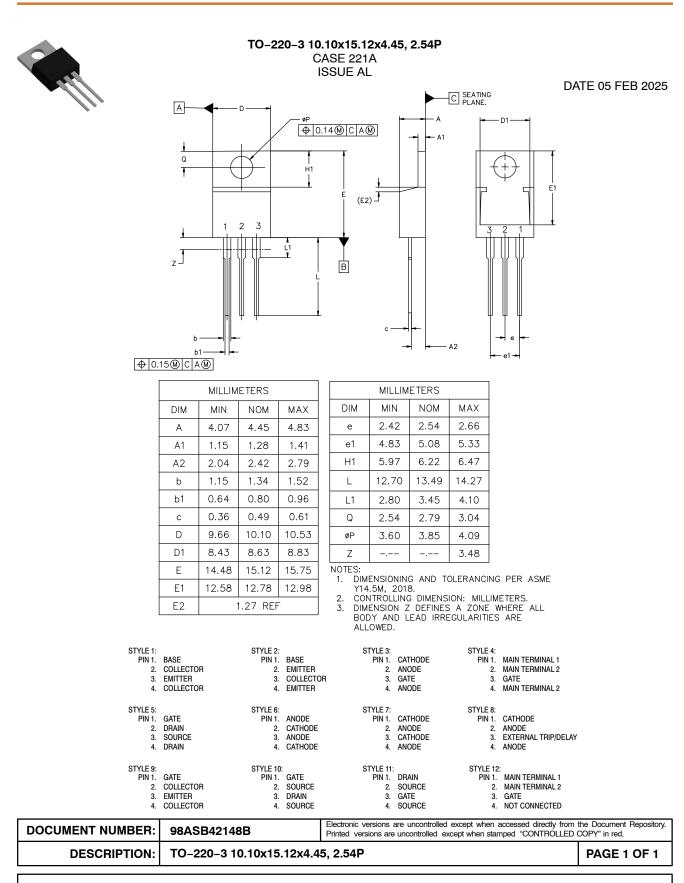
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