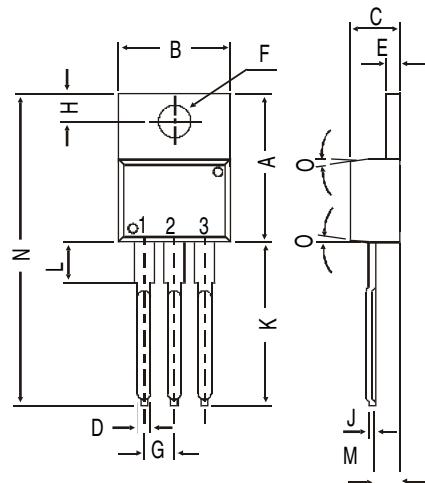
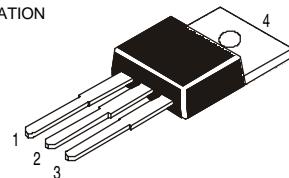


TO-220 Plastic Package

**MJE15028, MJE15030
MJE15029, MJE15031**

**MJE15028, 15030 NPN PLASTIC POWER TRANSISTORS
MJE15029, 15031 PNP PLASTIC POWER TRANSISTORS
High frequency Drivers in Audio Amplifiers**

PIN CONFIGURATION
1. BASE
2. COLLECTOR
3. Emitter
4. COLLECTOR



DIM	MIN.	MAX.
A	14.42	16.51
B	9.63	10.67
C	3.56	4.83
D		0.90
E	1.15	1.40
F	3.75	3.88
G	2.29	2.79
H	2.54	3.43
J		0.56
K	12.70	14.73
L	2.80	4.07
M	2.03	2.92
N		31.24
O	DEG 7	

All dimensions in mm.

ABSOLUTE MAXIMUM RATINGS

	15028	15030
15029	15031	
Collector-base voltage (open emitter)	V_{CBO} max. 120	150 V
Collector-emitter voltage (open base)	V_{CEO} max. 120	150 V
Collector current	I_C max.	8.0 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot} max.	50 W
Junction temperature	T_j max.	150 $^\circ\text{C}$
Collector-emitter saturation voltage	V_{CEsat} max.	0.5 V
$I_C = 1\text{ A}; I_B = 0.1\text{ A}$		
D.C. current gain	h_{FE} min.	40
$I_C = 0.1\text{ A}; V_{CE} = 2\text{ V}$		
RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)	15028	15030
15029	15031	
Limiting values		
Collector-base voltage (open emitter)	V_{CBO} max. 120	150 V
Collector-emitter voltage (open base)	V_{CEO} max. 120	150 V

**MJE15028, MJE15030
MJE15029, MJE15031**

<i>Emitter base voltage (open collector)</i>	V_{EBO}	<i>max.</i>	5.0	V
<i>Collector current</i>	I_C	<i>max.</i>	8.0	A
<i>Collector current (Peak value)</i>	I_C	<i>max.</i>	16	A
<i>Base current</i>	I_B	<i>max.</i>	2.0	A
<i>Total power dissipation up to $T_C = 25^\circ\text{C}$</i>	P_{tot}	<i>max.</i>	50	W
<i>Derate above 25°C</i>		<i>max.</i>	0.4	W/°C
<i>Total power dissipation up to $T_A = 25^\circ\text{C}$</i>	P_{tot}	<i>max.</i>	2.0	W
<i>Derate above 25°C</i>		<i>max.</i>	0.016	W/°C
<i>Junction temperature</i>	T_j	<i>max.</i>	150	°C
<i>Storage temperature</i>	T_{stg}		-65 to +150	°C

THERMAL RESISTANCE

<i>From junction to case</i>	$R_{th\ j-c}$	=	2.5	°C/W
<i>From junction to ambient</i>	$R_{th\ j-a}$	=	62.5	°C/W

CHARACTERISTICS

$T_{amb} = 25^\circ\text{C}$ unless otherwise specified

		15028	15030
		15029	15031
<i>Collector cutoff current</i>			
$I_B = 0; V_{CE} = 120V$	I_{CEO}	<i>max.</i> 0.1	- mA
$I_B = 0; V_{CE} = 150V$	I_{CEO}	<i>max.</i> -	0.1 mA
$I_E = 0; V_{CB} = 120V$	I_{CBO}	<i>max.</i> 10	- μA
$I_E = 0; V_{CB} = 150V$	I_{CBO}	<i>max.</i> -	10 μA
<i>Emitter cut-off current</i>			
$I_C = 0; V_{EB} = 5V$	I_{EBO}	<i>max.</i>	10 μA
<i>Breakdown voltages</i>			
$I_C = 10 \text{ mA}; I_B = 0$	$V_{CEO(sus)}^*$	<i>min.</i> 120	150 V
$I_C = 1 \text{ mA}; I_E = 0$	V_{CBO}	<i>min.</i> 120	150 V
$I_E = 1 \text{ mA}; I_C = 0$	V_{EBO}	<i>min.</i>	5.0 V
<i>Saturation voltage</i>			
$I_C = 1 \text{ A}; I_B = 0.1 \text{ A}$	V_{CEsat}^*	<i>max.</i>	0.5 V
<i>Base emitter on voltage</i>			
$I_C = 1A; V_{CE} = 2V$	$V_{BE(on)}^*$	<i>max.</i>	1.0 V
<i>D.C. current gain</i>			
$I_C = 0.1 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}^*	<i>min.</i>	40
$I_C = 2 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}^*	<i>min.</i>	40
$I_C = 3 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}^*	<i>min.</i>	40
$I_C = 4 \text{ A}; V_{CE} = 2 \text{ V}$	h_{FE}^*	<i>min.</i>	20
<i>Transition frequency $f = 10 \text{ MHz}$</i>			
$I_C = 500 \text{ mA}; V_{CE} = 10 \text{ V}$	$f_T(1)$	<i>min.</i>	30 MHz

* Pulse test: pulse width $\leq 300 \mu\text{s}$; duty cycle $\leq 2\%$.

(1) $f_T = |h_{FE}| \cdot f_{test}$

Customer Notes

Disclaimer

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