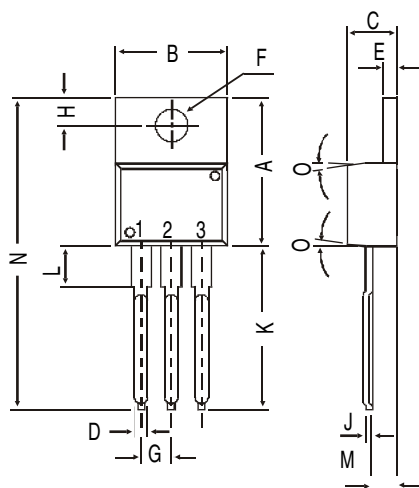
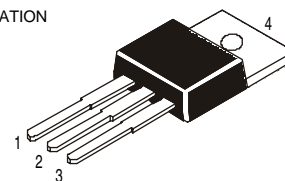


TO-220 Plastic Package

**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 15029	15030 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 $I_C = 1\text{ A}; I_B = 0.1\text{ A}$	V_{CEsat}	max.	0.5 V
D.C. current gain $I_C = 0.1\text{ A}; V_{CE} = 2\text{ V}$	h_{FE}	min.	40

RATINGS (at $T_A=25^\circ\text{C}$ unless otherwise specified)

		15028 15029	15030 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

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

THERMAL RESISTANCE

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

CHARACTERISTICS

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

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

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

(1) $f_T = |h_{fe}| \bullet f_{test}$

Customer Notes

Disclaimer

The product information and the selection guides facilitate selection of the CDIL's Discrete Semiconductor Device(s) best suited for application in your product(s) as per your requirement. It is recommended that you completely review our Data Sheet(s) so as to confirm that the Device(s) meet functionality parameters for your application. The information furnished on the CDIL Web Site/ CD are believed to be accurate and reliable. CDIL however, does not assume responsibility for inaccuracies or incomplete information. Furthermore, CDIL does not assume liability whatsoever, arising out of the application or use of any CDIL product; neither does it convey any license under its patent rights nor rights of others. These products are not designed for use in life saving/support appliances or systems. CDIL customers selling these products (either as individual Discrete Semiconductor Devices or incorporated in their end products), in any life saving/support appliances or systems or applications do so at their own risk and CDIL will not be responsible for any damages resulting from such sale(s).

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