MJE270 NPN PLASTIC POWER TRANSISTOR
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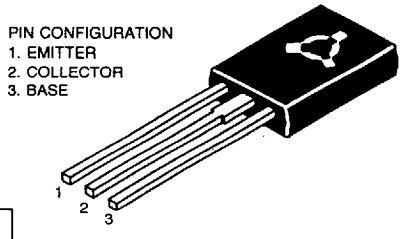
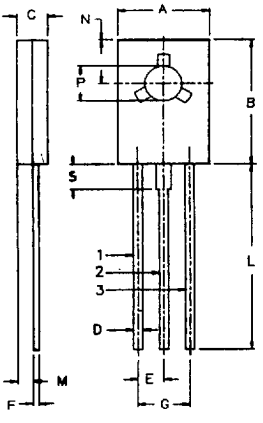
Medium Power **Darlingtons** for Linear and Switching Applications





DIM	MIN.	MAX.
A	7.4	7.8
B	10.5	10.8
C	2.4	2.7
D	0.7	0.9
E	2.25 TYP.	
F	0.49	0.75
G	4.5 TYP.	
L	15.7 TYP.	
M	1.27 TYP.	
N	3.75 TYP.	
P	3.0	3.2
S	2.5 TYP.	

ALL DIMENSIONS IN MM

ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)	V_{CBO}	max.	100 V
Collector-emitter voltage (open base)	V_{CEO}	max.	100 V
Collector current	I_C	max.	2.0 A
Total power dissipation up to T_C = 25°C	P_{tot}	max.	15 W
Junction temperature	T_j	max.	150 °C
Collector-emitter saturation voltage			
I_C = 20 mA; I_B = 0.2 mA	V_{CEsat}	max.	2.0 V
D.C. current gain			
I_C = 20 mA; V_{CE} = 3 V	h_{FE}	min.	500

RATINGS (at T_A=25°C unless otherwise specified)

Limiting values			
Collector-base voltage (open emitter)	V_{CBO}	max.	100 V
Collector-emitter voltage (open base)	V_{CEO}	max.	100 V

Emitter-base voltage (open collector)	V_{EBO}	max.	5.0 V
Collector current	I_C	max.	2.0 A
Collector current (peak)	I_C	max.	4.0 A
Base current	I_B	max.	0.1 A
Total power dissipation up to T_C = 25°C	P_{tot}	max.	15 W
Derate above 25°C		max.	0.12 W/°C
Total power dissipation up to T_A = 25°C	P_{tot}	max.	1.5 W
Derate above 25°C		max.	0.012 W/°C
Junction temperature	T_j	max.	150 °C
Storage temperature	T_{stg}		−65 to +150 °C

THERMAL RESISTANCE

From junction to case	$R_{th\ j-c}$		8.33 °C/W
From junction to ambient	$R_{th\ j-a}$		83.3 °C/W

CHARACTERISTICS

T_{amb} = 25°C unless otherwise specified

Collector cutoff current			
I_E = 0; V_{CB} = 100 V	I_{CBO}	max.	0.3 mA
I_B = 0; V_{CE} = 100 V	I_{CEO}	max.	1.0 mA
Emitter cut-off current			
I_C = 0; V_{EB} = 5 V	I_{EBO}	max.	0.1 mA
Breakdown voltages			
I_C = 10 mA; I_B = 0	$V_{CEO(sus)}$*	min.	100 V
I_C = 1 mA; I_E = 0	V_{CBO}	min.	100 V
I_E = 1 mA; I_C = 0	V_{EBO}	min.	5 V
Saturation voltages			
I_C = 20 mA; I_B = 0.2 mA	V_{CEsat}*	max.	2.0 V
I_C = 120 mA; I_B = 1.2 mA	V_{CEsat}*	max.	3.0 V
Base emitter on voltage			
I_C = 120 mA; V_{CE} = 10V	$V_{BE(on)}$*	max.	2.0 V
D.C. current gain			
I_C = 20 mA; V_{CE} = 3 V	h_{FE}*	min.	500
I_C = 120 mA; V_{CE} = 10 V	h_{FE}*	min.	1500
Transition frequency f = 1 MHz			
I_C = 0.05 A; V_{CE} = 5 V	f_T(1)	min.	6.0 MHz
Second Breakdown Collector Current with base Forward Biased			
V_{CE} = 40V; t = 1.0s; (non-repetitive)	$I_{S/b}$	min.	375 mA

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

* Pulse test: pulse width ≤ 300 μs; duty cycle ≤ 2%.