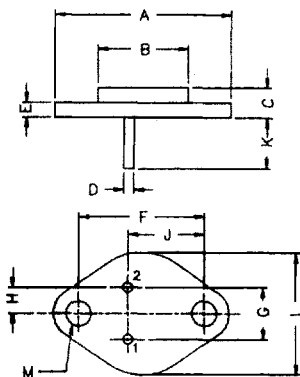
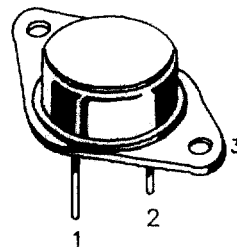


2SD811 NPN POWER TRANSISTOR High Power Switching Regulator Applications



ALL DIMENSIONS ARE IN M.M.

DIM	MIN	MAX
A	~	39,37
B	~	22,22
C	6,35	8,50
D	0,96	1,09
E	~	1,77
F	29,90	30,4
G	10,69	11,18
H	5,20	5,72
J	16,64	17,15
K	11,15	12,25
L	~	26,67
M	3,84	4,19



PIN CONFIGURATION
1. BASE
2. EMITTER
3. COLLECTOR

ABSOLUTE MAXIMUM RATINGS

Collector-base voltage (open emitter)	V_{CBO}	max.	900 V
Collector-emitter voltage (open base)	V_{CEO}	max.	400 V
Collector current	I_C	max.	6 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	50 W
Junction temperature	T_j	max.	200 $^\circ\text{C}$
Collector-emitter saturation voltage $I_C = 2.5\text{A}; I_B = 0.5\text{A}$	V_{CEsat}	max.	5 V
D.C. current gain $I_C = 0.6\text{A}; V_{CE} = 5\text{V}$	h_{FE}	min.	10
		max.	40

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

Limiting values

Collector-base voltage (open emitter)	V_{CBO}	max.	900 V
Collector-emitter voltage (open base)	V_{CEO}	max.	400 V
Emitter-base voltage (open collector)	V_{EBO}	max.	7 V
Collector current	I_C	max.	6 A

Collector current (peak)	I_C	max.	10 A
Total power dissipation up to $T_C = 25^\circ\text{C}$	P_{tot}	max.	50 W
Junction temperature	T_j	max.	200 $^\circ\text{C}$
Storage temperature	T_{stg}		-65 to +200 $^\circ\text{C}$

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

Collector cut-off current

 $I_E = 0; V_{CB} = 900\text{V}$

I_{CBO}	max.	1 mA
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Emitter cut-off current

 $I_C = 0; V_{EB} = 7\text{V}$

I_{EBO}	max.	1 mA
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Breakdown voltages

 $I_C = 1\text{ mA}; I_B = 0$

V_{CEO}	min.	400 V
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 $I_C = 1\text{ mA}; I_E = 0$

V_{CBO}	min.	900 V
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 $I_E = 1\text{ mA}; I_C = 0$

V_{EBO}	min.	7 V
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Saturation voltages

 $I_C = 2.5\text{A}; I_B = 0.5\text{A}$

$V_{CE\text{sat}}$	max.	5 V
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$V_{BE\text{sat}}$	max.	1.5 V
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D.C. current gain

 $I_C = 10\text{mA}; V_{CE} = 5\text{V}$

h_{FE}	min.	8
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 $I_C = 0.6\text{A}; V_{CE} = 5\text{V}$

h_{FE}	min.	10
	max.	40

Output capacitance at $f = 1\text{ MHz}$ $I_E = 0; V_{CB} = 10\text{V}$

C_o	typ.	75 pF
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Transition frequency

 $I_C = 100\text{ mA}; V_{CE} = 10\text{V}$

f_T	typ.	5 MHz
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Switching time $I_C = 2.5\text{A}; I_{B1} = 0.5\text{A}$ $I_{B2} = -1\text{A}$

Fall time

t_f	max.	0.5 μs
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