



COMPLEMENTARY SILICON POWER TRANSISTORS

- STM PREFERRED SALESTYPES
- COMPLEMENTARY PNP - NPN DEVICES
- SURFACE-MOUNTING TO-252 (DPAK)
POWER PACKAGE IN TAPE & REEL
(SUFFIX T4)

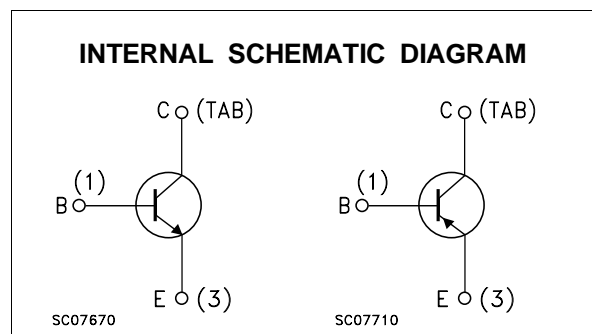
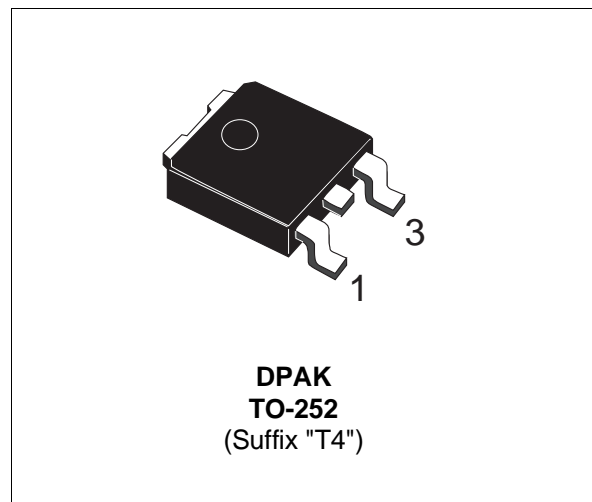
APPLICATIONS

- AUDIO AMPLIFIERS

DESCRIPTION

The MJD200 is an Epitaxial-Base NPN transistor designed for low voltage, low power, high gain, audio amplifier applications.

The complementary PNP type is MJD210.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value		Unit
		NPN	MJD200	
V_{CBO}	Collector-Base Voltage ($I_E = 0$)		40	V
V_{CEO}	Collector-Emitter Voltage ($I_B = 0$)		25	V
V_{EBO}	Emitter-Base Voltage ($I_C = 0$)		8	V
I_C	Collector Current		5	A
I_{CM}	Collector Peak Current		10	A
P_{tot}	Total Power Dissipation at $T_{case} \leq 25\text{ }^\circ\text{C}$		12.5	W
T_{stg}	Storage Temperature		-65 to 150	$^\circ\text{C}$
T_j	Max Operating Junction Temperature		150	$^\circ\text{C}$

For PNP types voltage and current values are negative.

MJD200 / MJD210

THERMAL DATA

R _{thj-case}	Thermal Resistance Junction-case	Max	10	°C/W
R _{thj-amb}	Thermal Resistance Junction-ambient	Max	89.3	°C/W

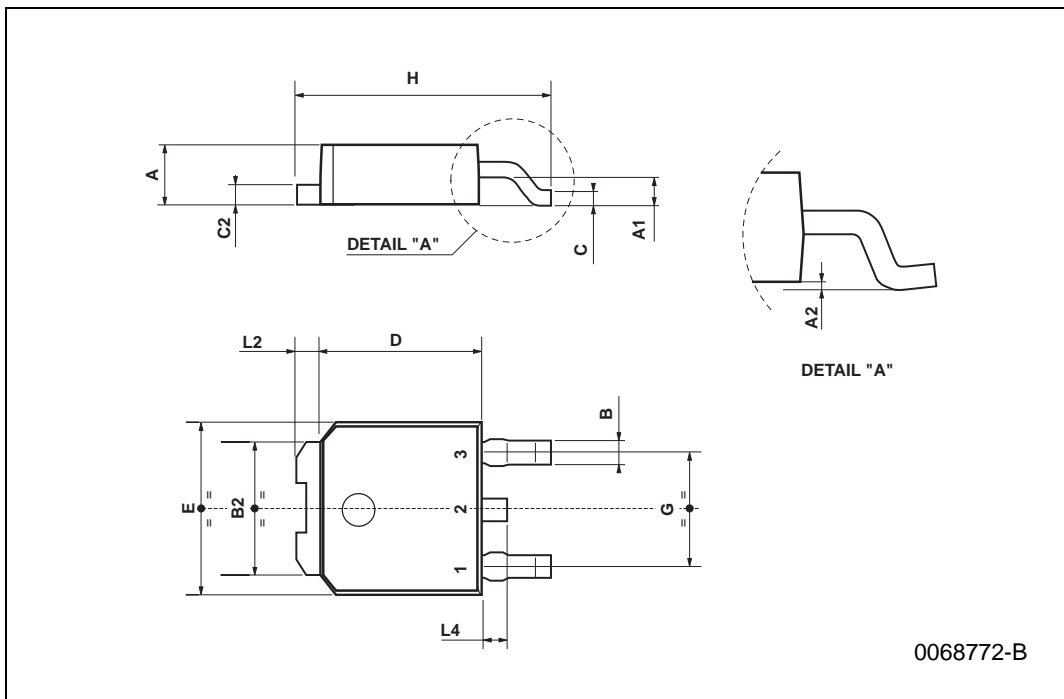
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
V _{CEO(sus)}	Collector-Emitter Sustaining Voltage (I _B = 0)	I _C = 10 mA	25			V
I _{CBO}	Collector Cut-off Current (I _E = 0)	V _{CB} = 40 V V _{CB} = 40 V T _J = 125 °C			0.1 0.1	μA μA
I _{EBO}	Emitter Cut-off Current (I _C = 0)	V _{BE} = 8 V			0.1	μA
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C = 500 mA I _B = 50 mA I _C = 2 A I _B = 200 mA I _C = 5 A I _B = 1 A			0.3 0.75 1.8	V V V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C = 5 A I _B = 1 A			2.5	V
V _{BE(on)}	Base-Emitter On Voltage	I _C = 2 A V _{CE} = 1 V			1.6	V
f _T	Transition Frequency	I _C = 100 mA V _{CE} = 10 V f = 10 MHz	65			MHz
h _{FE} *	DC Current Gain	I _C = 500 mA V _{CE} = 1 V I _C = 2 A V _{CE} = 1 V I _C = 5 A V _{CE} = 2 V	70 45 10		180	

* Pulsed: Pulse duration = 300 μs, duty cycle ≤ 2 %
For PNP type voltage and current values are negative.

TO-252 (DPAK) MECHANICAL DATA

DIM.	mm			inch		
	MIN.	TYP.	MAX.	MIN.	TYP.	MAX.
A	2.2		2.4	0.086		0.094
A1	0.9		1.1	0.035		0.043
A2	0.03		0.23	0.001		0.009
B	0.64		0.9	0.025		0.035
B2	5.2		5.4	0.204		0.212
C	0.45		0.6	0.017		0.023
C2	0.48		0.6	0.019		0.023
D	6		6.2	0.236		0.244
E	6.4		6.6	0.252		0.260
G	4.4		4.6	0.173		0.181
H	9.35		10.1	0.368		0.397
L2		0.8			0.031	
L4	0.6		1	0.023		0.039



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