



COMPLEMENTARY SILICON POWER TRANSISTORS

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

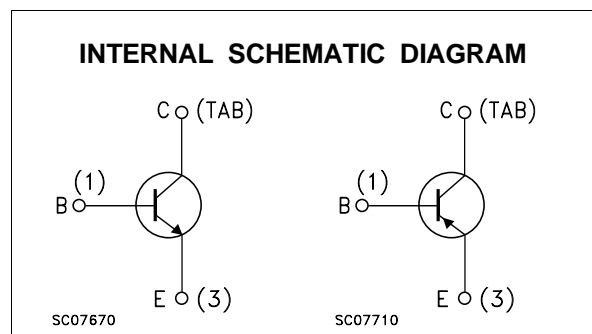
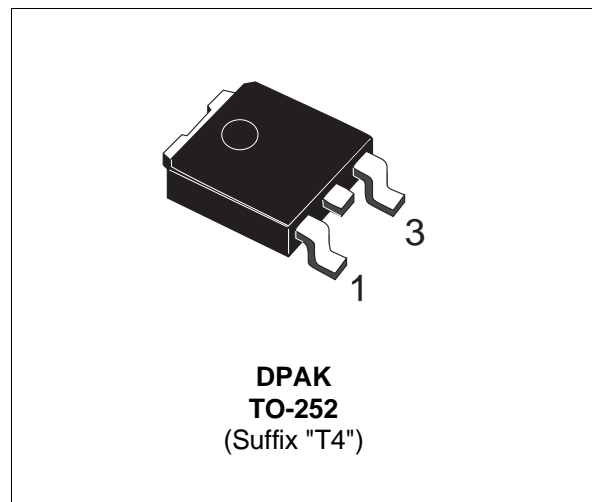
APPLICATIONS

- 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	
		PNP	MJD210	
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

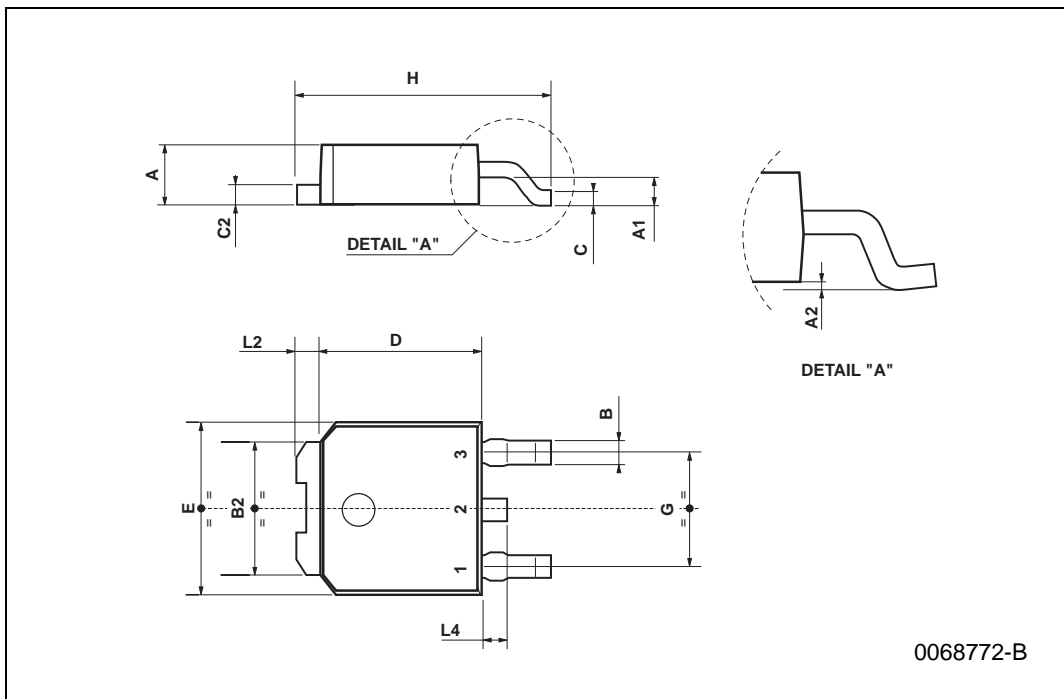
ELECTRICAL CHARACTERISTICS (T_{case} = 25 °C unless otherwise specified)

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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