MJD200
MJD210

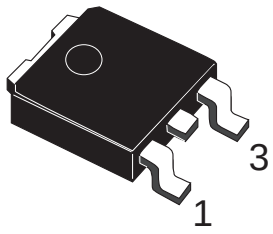
COMPLEMENTARY SILICON POWER TRANSISTORS

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

APPLICATIONS
- AUDIO AMPLIFIERS

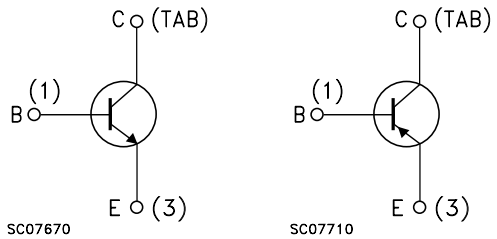
DESCRIPTION
The MJD200 is an Epitaxial-Base NPN transistor designed for low voltage, low power, high gain, audio amplifier applications.

The complementary PNP type is MJD210.



DPAK
TO-252
(Suffix "T4")

INTERNAL SCHEMATIC DIAGRAM



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 $T_{case} \leq 25\ ^oC$		12.5	W
T_{stg}	Storage Temperature		-65 to 150	^oC
T_j	Max Operating Junction Temperature		150	^oC

For PNP types voltage and current values are negative.

THERMAL DATA

$R_{thj\text{-}case}$	Thermal Resistance Junction-case	Max	10	$^oC/W$
$R_{thj\text{-}amb}$	Thermal Resistance Junction-ambient	Max	89.3	$^oC/W$

ELECTRICAL CHARACTERISTICS (T_{case} = 25 ^oC 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 ^oC			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