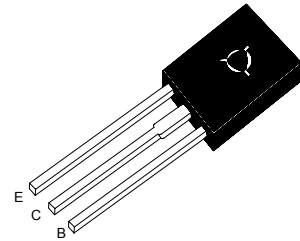


# ST 2SD1691T

## NPN Silicon Epitaxial Power Transistor For Low-Frequency Power Amplifiers and Mid-Speed Switching

The transistor is subdivided into three groups, M, L and K, according to its DC-DC current gain.



TO-18 Plastic Package

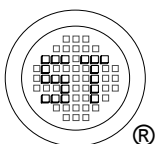
### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	60	V
Emitter to Base Voltage	$V_{EBO}$	7	V
Collector Current	$I_{C(DC)}$	5	A
Base Current	$I_{B(DC)}$	1	A
Collector Current (pulse) <sup>1)</sup>	$I_{C(pulse)}$	8	A
Total power dissipation ( $T_a = 25^\circ\text{C}$ )	$P_{tot}$	1.3	W
Total power dissipation ( $T_c = 25^\circ\text{C}$ )	$P_{tot}$	20	W
Junction Temperature	$T_j$	150	$^\circ\text{C}$
Storage Temperature Range	$T_s$	-55 to +150	$^\circ\text{C}$

<sup>1)</sup>  $PW \leq 10\text{ms}$ , duty cycle  $\leq 50\%$ .

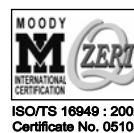
### Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$ , $I_C = 2\text{ A}$  Current Gain Group M L K  at $V_{CE} = 1\text{ V}$ , $I_C = 0.1\text{ A}$ at $V_{CE} = 1\text{ V}$ , $I_C = 5\text{ A}$	$h_{FE}$	100	200	-
	$h_{FE}$	160	320	-
	$h_{FE}$	200	400	-
	$h_{FE}$	60	-	-
	$h_{FE}$	50	-	-
Collector Cutoff Current at $V_{CB} = 50\text{ V}$	$I_{CBO}$	-	10	$\mu\text{A}$
Emitter Cutoff Current at $V_{EB} = 7\text{ V}$	$I_{EBO}$	-	10	$\mu\text{A}$
Base Saturation Voltage at $I_C = 2\text{ A}$ , $I_B = 0.2\text{ A}$	$V_{BE(sat)}$	-	1.2	V
Collector Saturation Voltage at $I_C = 2\text{ A}$ , $I_B = 0.2\text{ A}$	$V_{CE(sat)}$	-	0.3	V
Turn-on time	$T_{on}$	-	1	$\mu\text{s}$
Storage time	$T_{stg}$	-	2.5	$\mu\text{s}$
Fall time	$t_f$	-	1	$\mu\text{s}$



**SEMTECH ELECTRONICS LTD.**

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