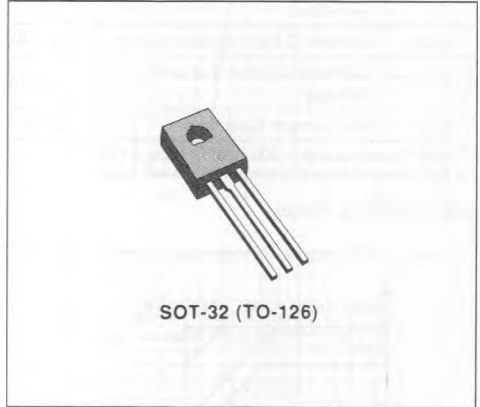


COMPLEMENTARY POWER TRANSISTORS

DESCRIPTION

The MJE521 is a silicon epitaxial-base NPN transistor in Jedec TO-126 plastic package, intended for use in 5 to 20W audio amplifiers, general purpose amplifier and switching circuits. The complementary PNP type is the MJE371.



INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	40	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	40	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	4	V
I_C	Collector Current	4	A
I_{CM}	Collector Peak Current	8	A
I_B	Base Current	2	A
P_{Tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	40	W
T_{stg}	Storage Temperature	- 65 to 150	$^\circ C$
T_J	Junction Temperature	150	$^\circ C$

For PNP types voltage and current values are negative.

THERMAL DATA

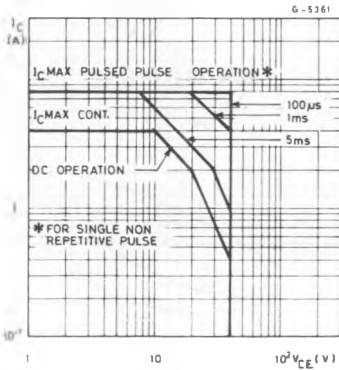
$R_{th(j-case)}$	Thermal Resistance Junction-case	Max	3.12	$^{\circ}C/W$
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ELECTRICAL CHARACTERISTICS ($T_{case} = 25^{\circ}C$ unless otherwise specified)

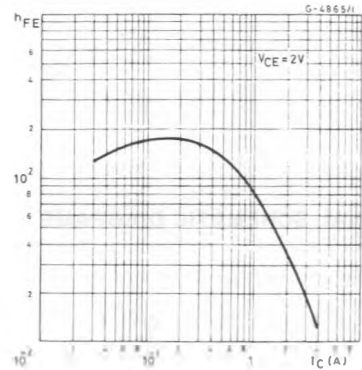
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_E = 0$)	$V_{CB} = 40V$			100	μA
I_{EBO}	Emitter Cutoff Current ($I_C = 0$)	$V_{EB} = 4V$			100	μA
$V_{CE0(sus)^*}$	Collector-Emitter Sustaining Voltage	$I_C = 0.1A$	40			V
h_{FE}^*	DC Current Gain	$I_C = 1A$ $V_{CE} = 1V$	40			

* Pulsed : pulse duration = 300 μs , duty cycle < 1.5 %.
 For PNP types voltage and current values are negative.

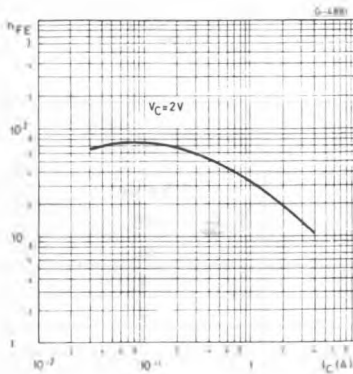
Safe Operating Areas.



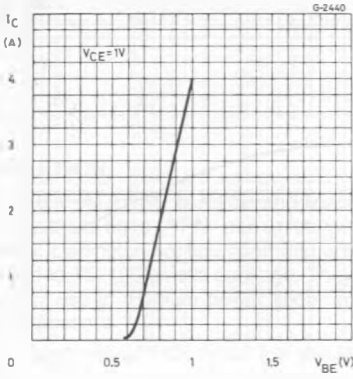
DC Current Gain (NPN type).



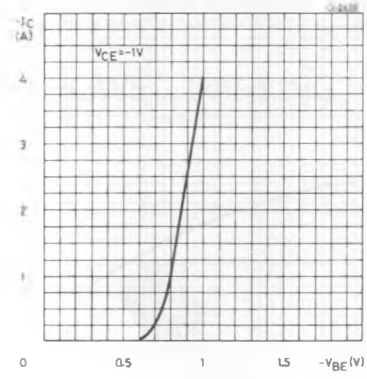
DC Current Gain (PNP type).



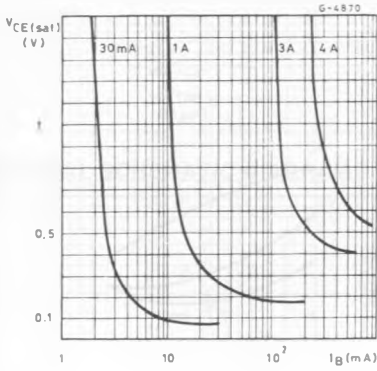
DC Transconductance (NPN type).



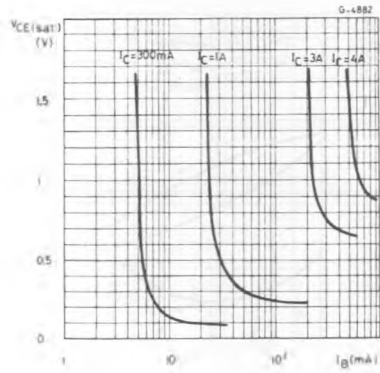
DC Transconductance (PNP type).



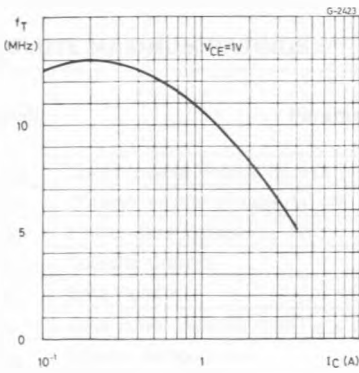
Collector-emitter Saturation Voltage (NPN type).



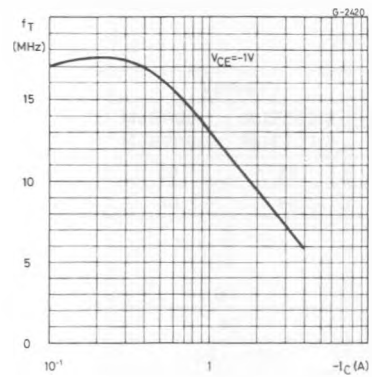
Collector-emitter Saturation Voltage (PNP type).



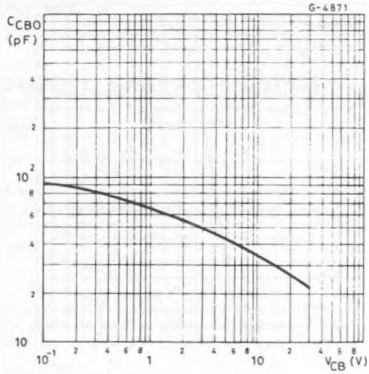
Transition Frequency (NPN type).



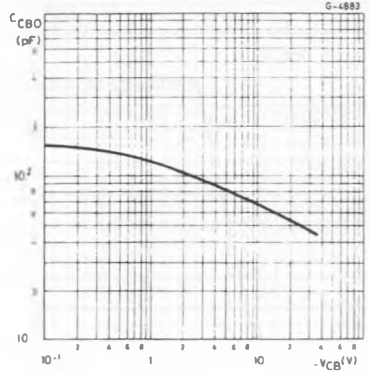
Transition Frequency (PNP type).



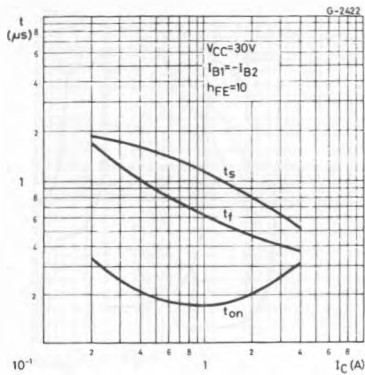
Collector-base Capacitance (NPN type).



Collector-base Capacitance(PNP type).



Saturated Switching Characteristics (NPN type).



Saturated Switching Characteristics (PNP type).

