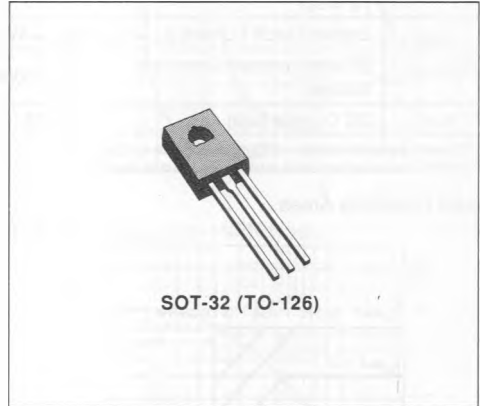




COMPLEMENTARY MEDIUM POWER TRANSISTORS

DESCRIPTION

The MJE370 (PNP type) and the MJE520 (NPN type) are silicon epitaxial-base transistors in Jedec TO-126 plastic package, designed for use in general purpose amplifier and switching circuits.



INTERNAL SCHEMATIC DIAGRAMS



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-base Voltage ($I_E = 0$)	30	V
V_{CEO}	Collector-emitter Voltage ($I_B = 0$)	30	V
V_{EBO}	Emitter-base Voltage ($I_C = 0$)	4	V
I_C	Collector Current	3	A
I_{CM}	Collector Peak Current	7	A
I_B	Base Current	2	A
P_{Tot}	Total Power Dissipation at $T_{case} \leq 25^\circ C$	25	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

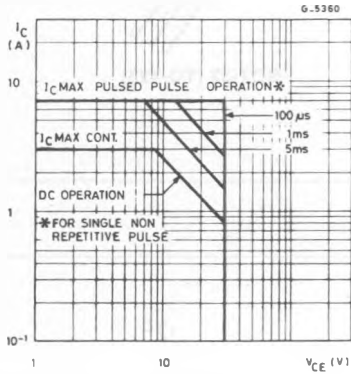
$R_{th \text{ j-case}}$	Thermal Resistance Junction-case	Max	5	$^{\circ}\text{C/W}$
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ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$ unless otherwise specified)

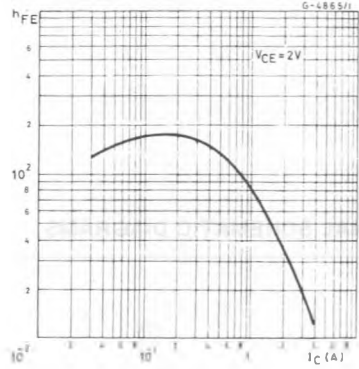
Symbol	Parameter	Test Conditions	Min.	Typ.	Max.	Unit
I_{CBO}	Collector Cutoff Current ($I_{\text{E}} = 0$)	$V_{\text{CB}} = 30\text{V}$			100	μA
I_{EBO}	Emitter Cutoff Current ($I_{\text{C}} = 0$)	$V_{\text{EB}} = 4\text{V}$			100	μA
$V_{\text{CEO(sus)}}^*$	Collector-emitter Sustaining Voltage	$I_{\text{C}} = 100\text{mA}$	30			V
h_{FE}^*	DC Current Gain	$I_{\text{C}} = 1\text{A}$ $V_{\text{CE}} = 1\text{V}$	25			

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

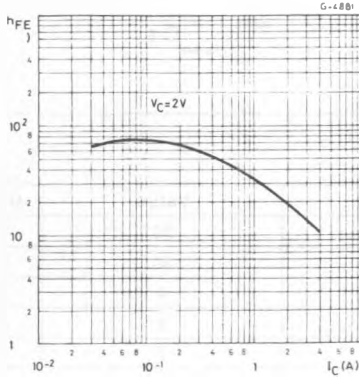
Safe Operating Areas.



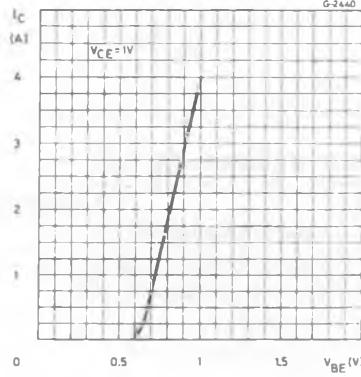
DC Current Gain (NPN type).



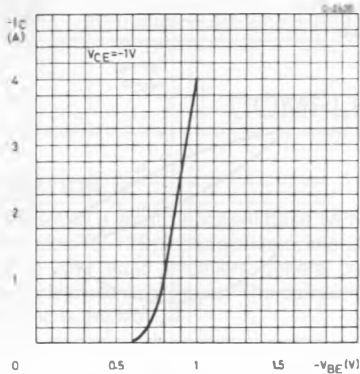
DC Current Gain (PNP type).



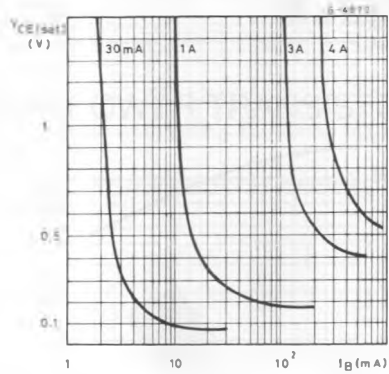
DC Transconductance (NPN type).



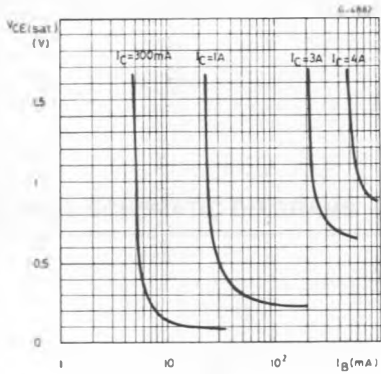
DC Transconductance(PNP type).



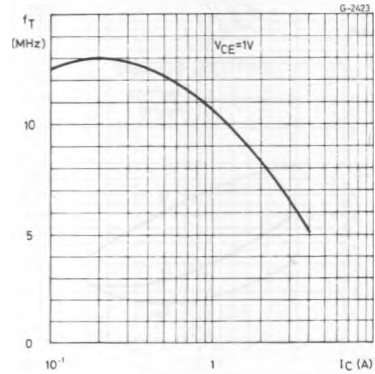
Collector-emitter Saturation Voltage (NPN type)



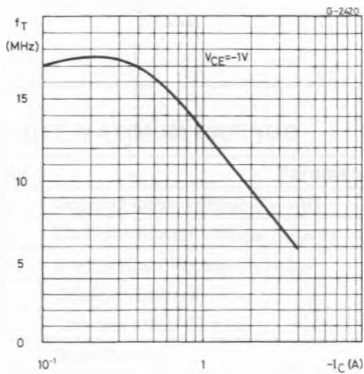
Collector-emitter saturation voltage (PNP type).



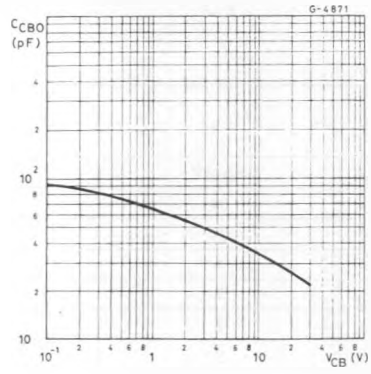
Transition Frequency (NPN type).



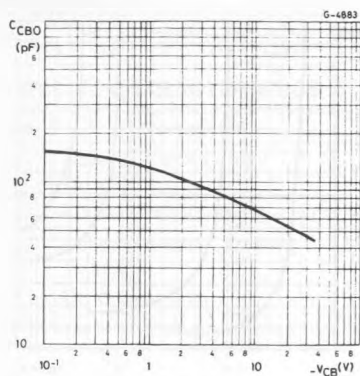
Transition Frequency (PNP type).



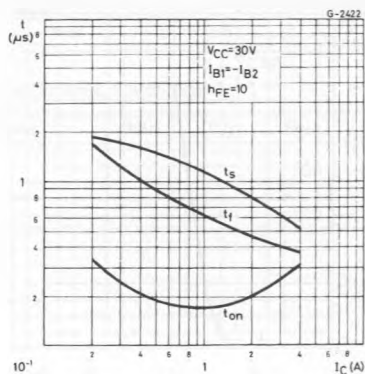
Collector-base Capacitance (NPN type).



Collector-base Capacitance (PNP type).



Saturated Switching Characteristics (NPN type).



Saturated switching characteristics (PNP types).

