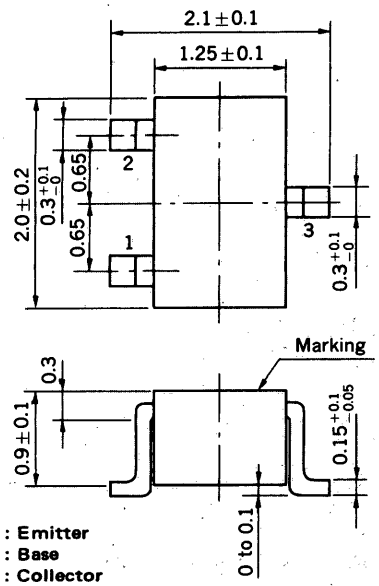
DATA SHEET

NEC
ELECTRON DEVICE

SILICON TRANSISTOR
GN1L3Z

MEDIUM SPEED SWITCHING
RESISTOR BUILT-IN TYPE PNP TRANSISTOR

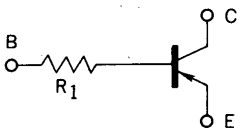
PACKAGE DIMENSIONS
in millimeters



1 : Emitter
2 : Base
3 : Collector

FEATURES

- Resistor Built-in TYPE



R_1 = 4.7 kΩ

- Complementary to GA1L3Z

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (T_a = 25 °C)			
Collector to Base Voltage	V_{CBO}	−60	V
Collector to Emitter Voltage	V_{CEO}	−50	V
Emitter to Base Voltage	V_{EBO}	−5	V
Collector Current (DC)	I_C	−100	mA
Collector Current (Pulse)	I_C	−200	mA
Maximum Power Dissipation			
Total Power Dissipation at 25 °C Ambient Temperature	P_T	150	mW
Maximum Temperatures			
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	−55 to +150	°C

ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			−100	nA	V_{CB} = −50 V, I_E = 0
DC Current Gain	h_{FE1}*	135	260	600		V_{CE} = −5.0 V, I_C = −5.0 mA
DC Current Gain	h_{FE2}*	100	200			V_{CE} = −5.0 V, I_C = −50 mA
Collector Saturation Voltage	$V_{CE(sat)}$*		−0.04	−0.2	V	I_C = −5.0 mA, I_B = −0.25 mA
Low-Level Input Voltage	V_{IL}*		−0.57	−0.5	V	V_{CE} = −5.0 V, I_C = −100 μA
High-Level Input Voltage	V_{IH}*	−1.2	−0.75		V	V_{CE} = −0.2 V, I_C = −5.0 mA
Input Resistor	R_1	3.29	4.70	6.11	kΩ	
Turn-on Time	t_{on}		0.04	0.2	μs	V_{CC} = −5 V, V_{in} = −5 V R_L = 1 kΩ PW = 2 μs, Duty Cycle ≦ 2 %
Storage Time	t_{stg}		1.7	5.0	μs	
Turn-off Time	t_{off}		1.9	6.0	μs	

* Pulsed: PW ≦ 350 μs, Duty Cycle ≦ 2 %

h_{FE} Classification

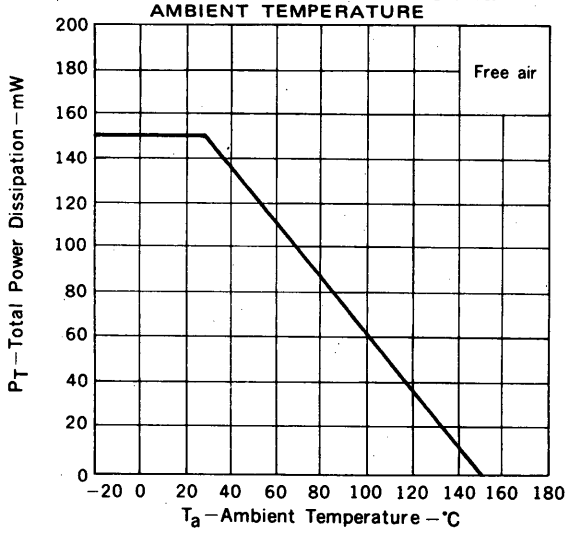
Marking	M36	M37	M38
h_{FE1}	135 to 270	200 to 400	300 to 600

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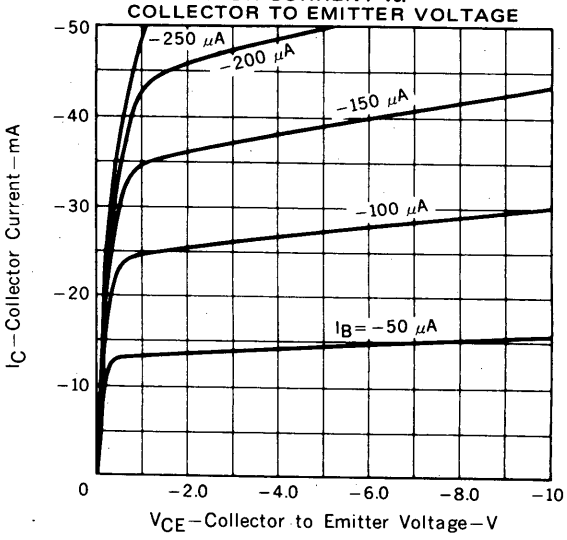
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TYPICAL CHARACTERISTIS (T_a = 25 °C)

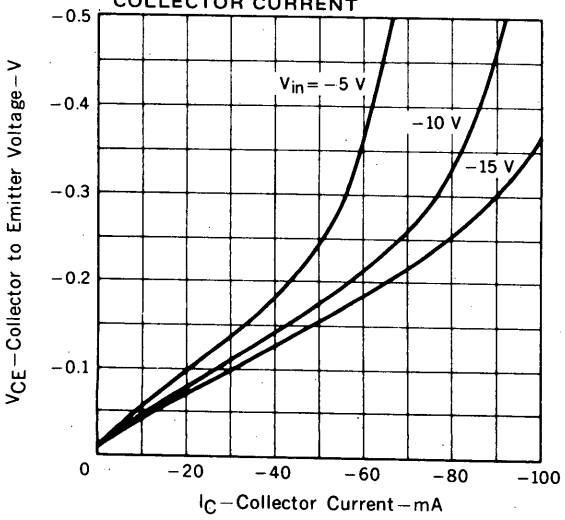
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



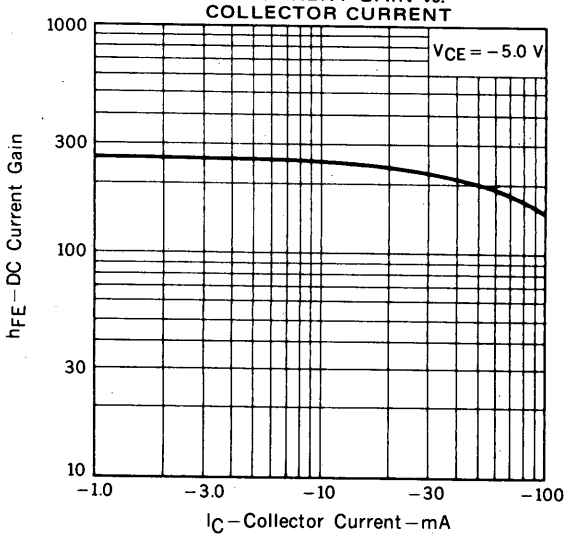
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



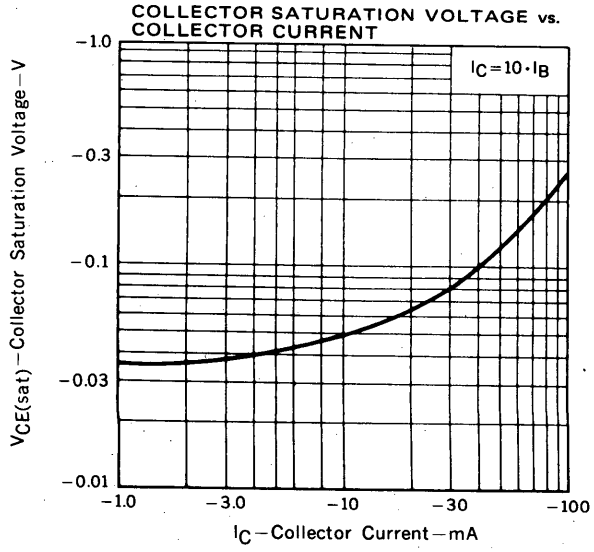
COLLECTOR TO EMITTER VOLTAGE vs. COLLECTOR CURRENT



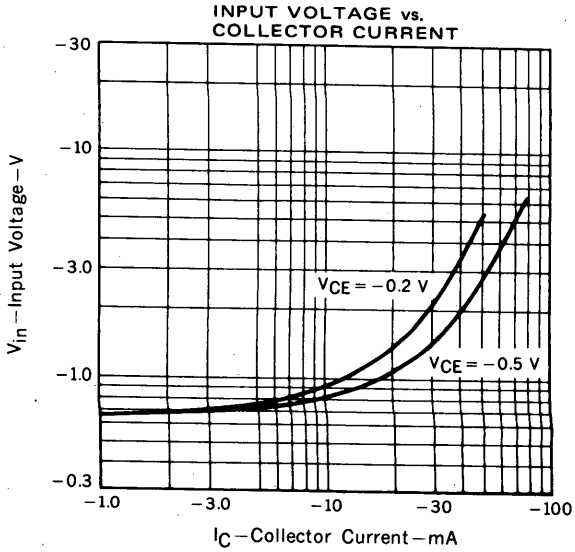
DC CURRENT GAIN vs. COLLECTOR CURRENT



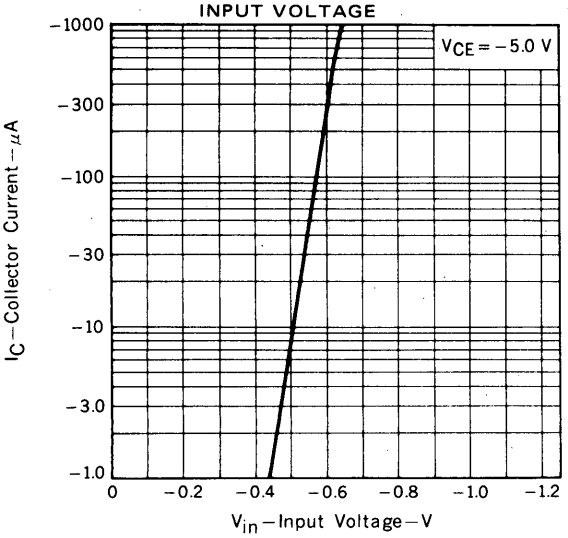
COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



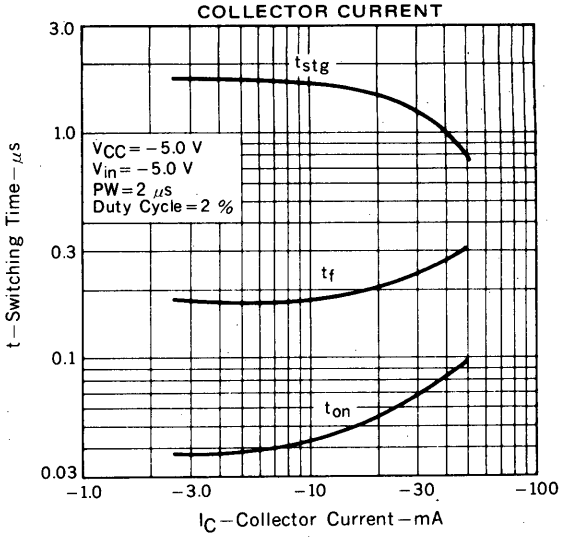
INPUT VOLTAGE vs. COLLECTOR CURRENT



COLLECTOR CURRENT vs.
INPUT VOLTAGE



SWITCHING TIME vs.
COLLECTOR CURRENT



[MEMO]

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