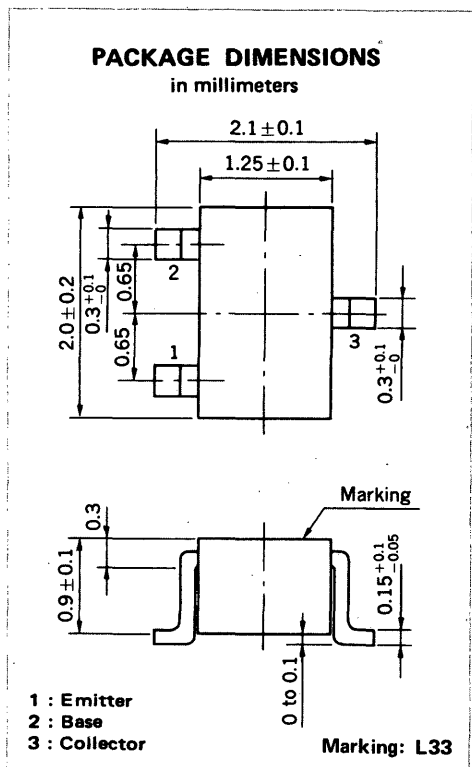
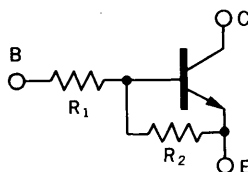


MEDIUM SPEED SWITCHING
RESISTOR BUILT-IN TYPE NPN TRANSISTOR



FEATURES

- Resistors Built-in TYPE



$R_1 = 10\text{ k}\Omega$
 $R_2 = 10\text{ k}\Omega$

- Complementary to GN1A4M

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ($T_a = 25\text{ }^\circ\text{C}$)

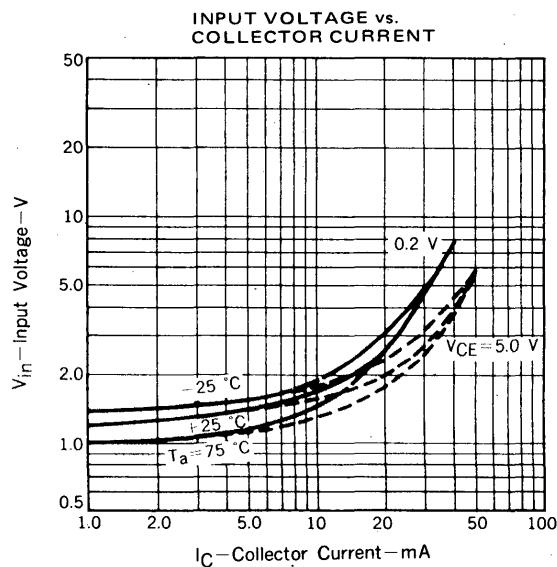
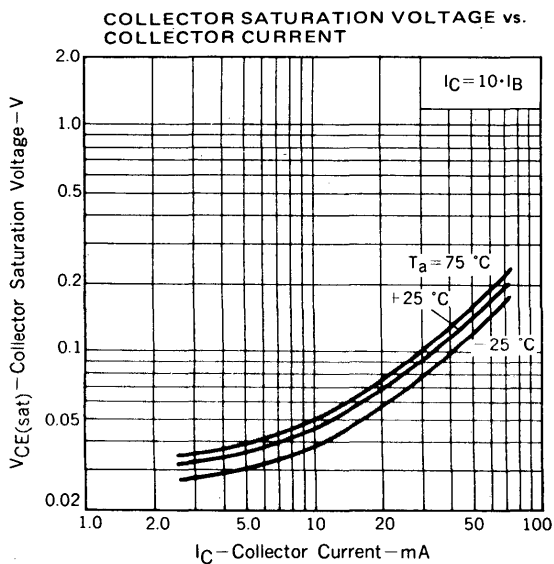
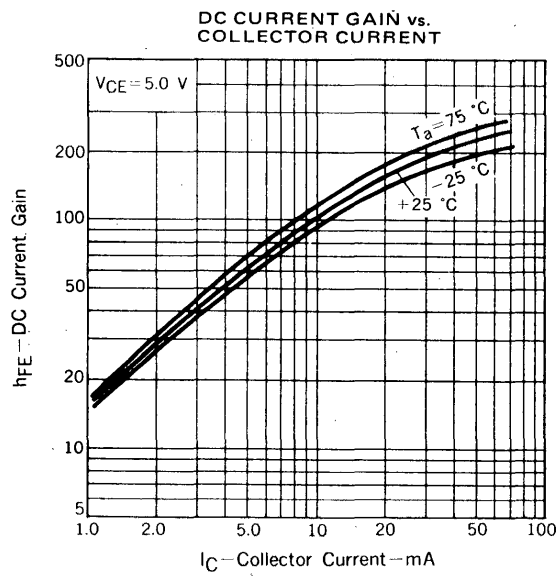
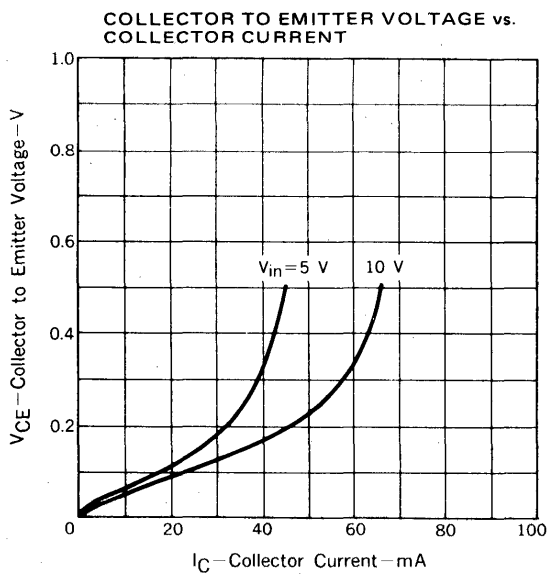
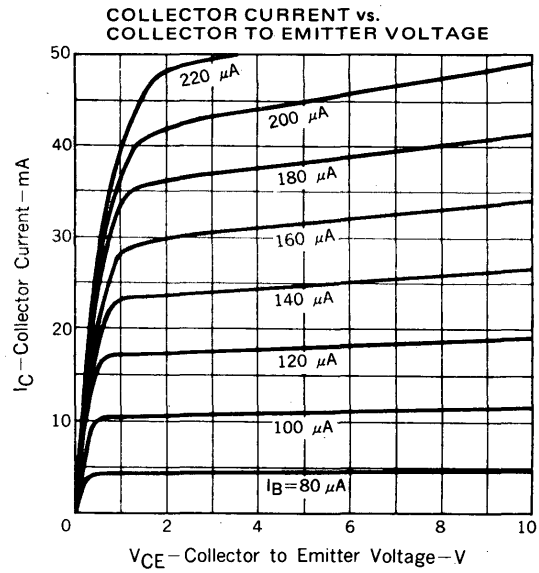
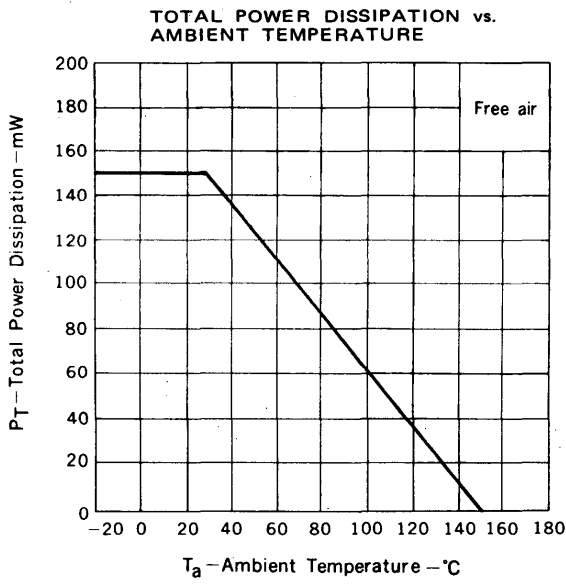
Collector to Base Voltage	V_{CBO}	60	V
Collector to Emitter Voltage	V_{CEO}	50	V
Emitter to Base Voltage	V_{EBO}	10	V
Collector Current (DC)	I_C	100	mA
Collector Current (Pulse)	I_C	200	mA
Maximum Power Dissipation			
Total Power Dissipation			
at $25\text{ }^\circ\text{C}$ Ambient Temperature	P_T	150	mW
Maximum Temperatures			
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ }^\circ\text{C}$)

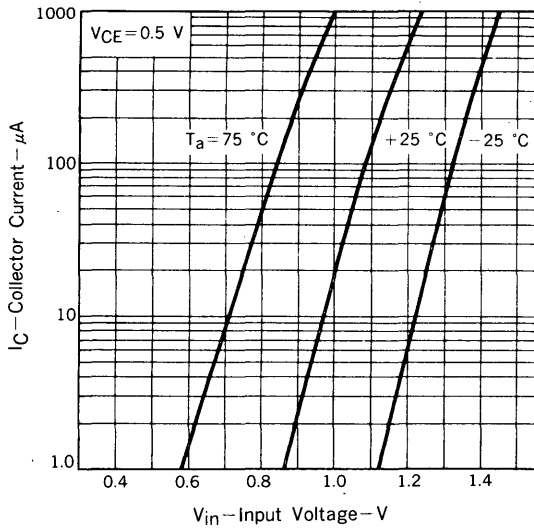
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	I_{CBO}			100	nA	$V_{CB} = 50\text{ V}, I_E = 0$
DC Current Gain	h_{FE1}^*	35	62	100		$V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$
DC Current Gain	h_{FE2}^*	80	230			$V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)}^*$		0.05	0.2	V	$I_C = 5.0\text{ mA}, I_B = 0.25\text{ mA}$
Low-Level Input Voltage	V_{IL}^*		1.08	0.8	V	$V_{CE} = 5.0\text{ V}, I_C = 100\text{ }\mu\text{A}$
High-Level Input Voltage	V_{IH}^*	3.0	1.4		V	$V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$
Input Resistor	R_1	7.0	10	13	$\text{k}\Omega$	
Resistor Ratio	R_1/R_2	0.9	1.0	1.1		
Turn-on Time	t_{on}		0.06	0.2	μs	$V_{CC} = 5\text{ V}, V_{in} = 5\text{ V}$
Storage Time	t_{stg}		2.0	5.0	μs	$R_L = 1\text{ k}\Omega$
Turn-off Time	t_{off}		2.15	6.0	μs	$PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$

* Pulsed: $PW \leq 350\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$

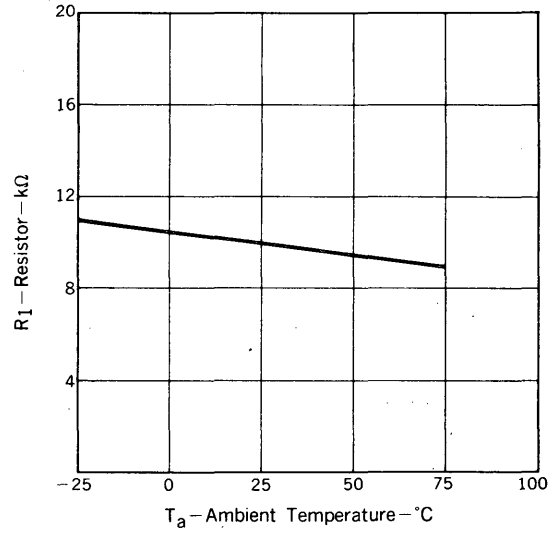
TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



COLLECTOR CURRENT vs. INPUT VOLTAGE



RESISTOR vs. AMBIENT TEMPERATURE



SWITCHING TIME vs. COLLECTOR CURRENT

