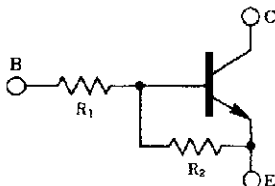


# COMPOUND TRANSISTOR AA1L3M

**on-chip resistor NPN silicon epitaxial transistor**  
**For mid-speed switching**

### FEATURES

- On-chip bias resistor  
( $R_1 = 4.7 \text{ k}\Omega$ ,  $R_2 = 4.7 \text{ k}\Omega$ )
- Complementary transistor with AN1L3M

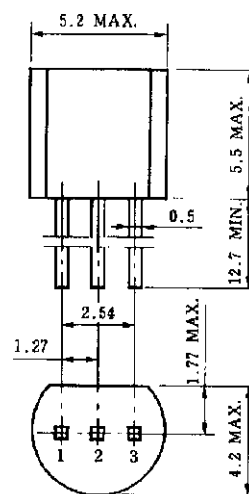


### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Ratings	Unit
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)	$I_{C(DC)}$	100	mA
Collector current (Pulse)	$I_{C(pulse)}$ *	200	mA
Total power dissipation	$P_T$	250	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\*  $PW \leq 10 \text{ ms}$ , duty cycle  $\leq 50 \%$

### PACKAGE DRAWING (UNIT: mm)



Electrode Connection

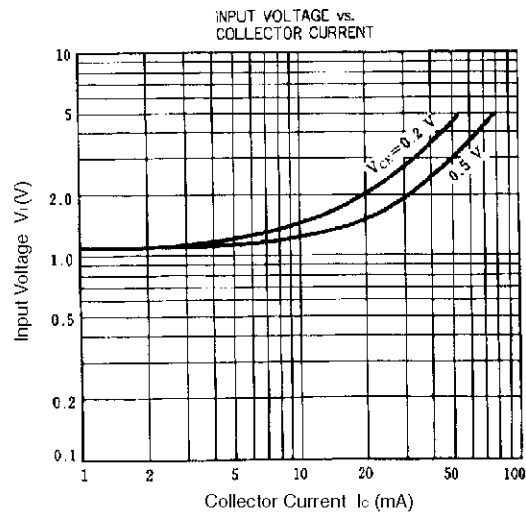
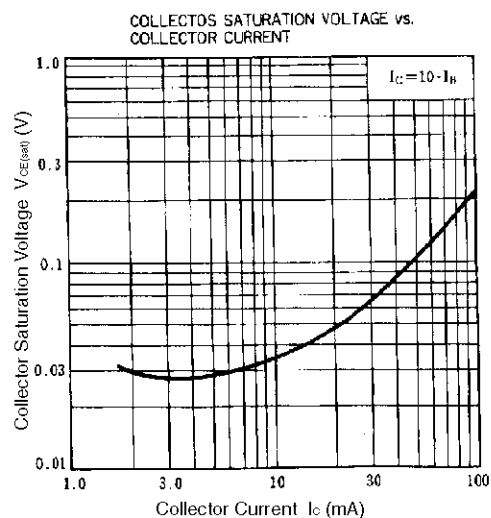
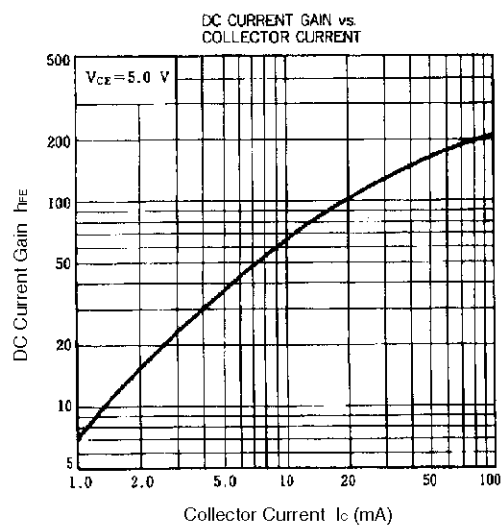
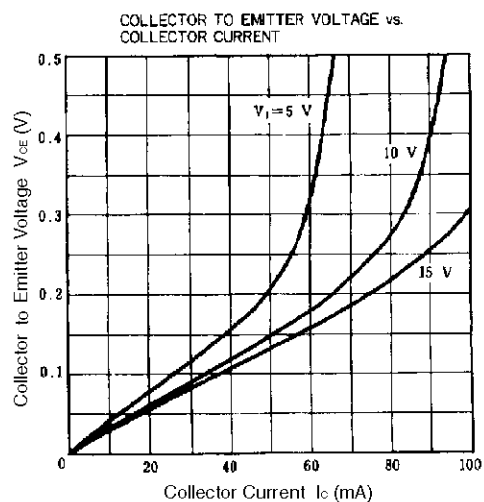
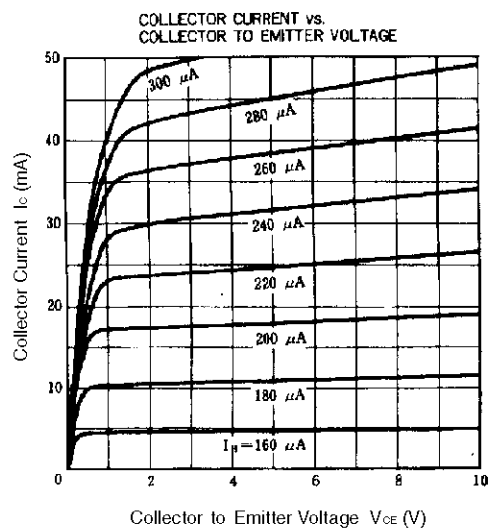
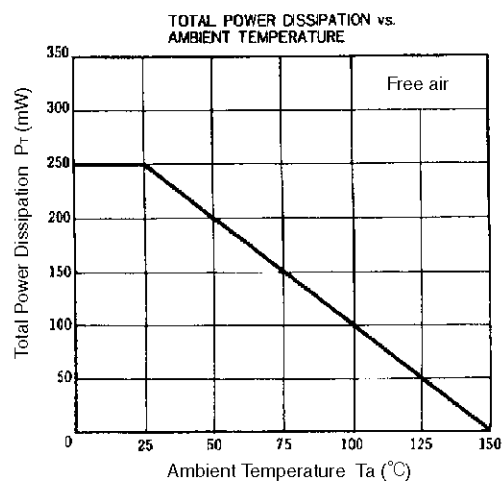
1. Emitter EIAJ : SC-43B
2. Collector JEDEC : TO-92
3. Base JFC : PA33

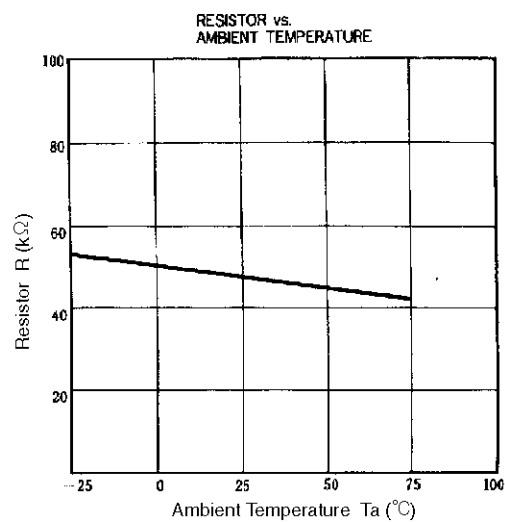
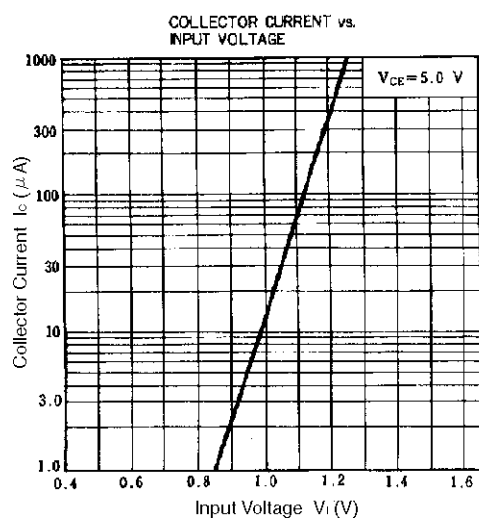
### ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50 \text{ V}$ , $I_E = 0$			100	nA
DC current gain	$h_{FE1}$ **	$V_{CE} = 5.0 \text{ V}$ , $I_C = 5.0 \text{ mA}$	20	40	80	—
DC current gain	$h_{FE2}$ **	$V_{CE} = 5.0 \text{ V}$ , $I_C = 50 \text{ mA}$	70	140		—
Collector saturation voltage	$V_{CE(sat)}$ **	$I_C = 5.0 \text{ mA}$ , $I_B = 0.25 \text{ mA}$		0.08	0.3	V
Low level input voltage	$V_{IL}$ **	$V_{CE} = 5.0 \text{ V}$ , $I_C = 100 \mu\text{A}$		1.1	0.8	V
High level input voltage	$V_{IH}$ **	$V_{CE} = 0.2 \text{ V}$ , $I_C = 5.0 \text{ mA}$	3.0	1.5		V
Input resistance	$R_1$		3.28	4.7	6.11	$\text{k}\Omega$
Resistance ratio	$R_1/R_2$		0.9	1.0	1.1	—
Turn-on time	$t_{on}$	$V_{CC} = 5 \text{ V}$ , $R_L = 1 \text{ k}\Omega$			0.5	$\mu\text{s}$
Storage time	$t_{stg}$	$V_i = 5 \text{ V}$ , $PW = 2 \mu\text{s}$			3.0	$\mu\text{s}$
Turn-off time	$t_{off}$	duty cycle $\leq 2 \%$			5.0	$\mu\text{s}$

\*\* Pulse test  $PW \leq 350 \mu\text{s}$ , duty cycle  $\leq 2 \%$

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



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