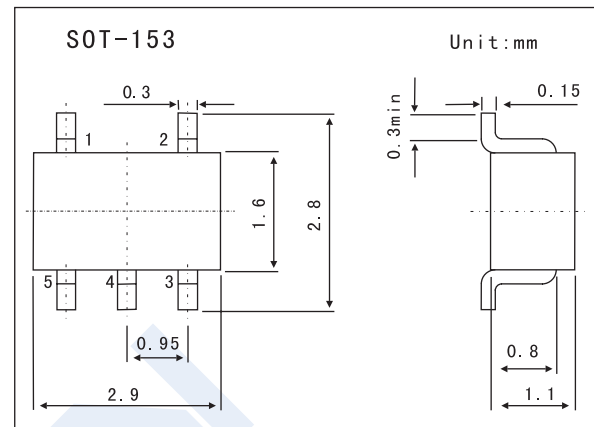


## Complex Digital Transistors

## FMA1A



### ■ Features

- Mounting Cost and Area Can Be Cut In Half.
- Emitter-common Type.
- PNP Epitaxial Planar Silicon Transistor.

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

< For Tr1 and Tr2 in common >

Parameter	Symbol	Rating	Unit
Supply Voltage	$V_{CC}$	-50	V
Input Voltage	$V_{IN}$	-40 to +10	V
Output Current	$I_o$	-30	mA
Collector Current	$I_{C(Max)}$	-100	
Power Dissipation	$P_D$ *	300	mW
Junction temperature	$T_j$	150	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ\text{C}$

\* 200mW per element must not be exceeded.

### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

< For Tr1 and Tr2 in common >

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Input Voltage	$V_{I(off)}$	$V_{CC} = -5V, I_o = -100 \mu\text{A}$			-0.5	V
	$V_{I(on)}$	$V_o = -0.2V, I_o = -5\text{mA}$	-3			
Output Voltage	$V_{O(on)}$	$I_o/I_i = -10\text{mA}/-0.5\text{mA}$		-0.1	-0.3	V
Input Current	$I_i$	$V_i = -5V$			-0.36	mA
Output Current	$I_{O(off)}$	$V_{CC} = -50V, V_i = 0V$			-0.5	$\mu\text{A}$
DC Current Gain	$G_i$	$V_o = -5V, I_o = -5\text{mA}$	56			
Input Resistance	$R_1$		15.4	22	28.6	$k\Omega$
Resistance Ratio	$R_2/R_1$		0.8	1	1.2	
Transistion Frequency	$f_r$ *	$V_{CE} = -10V, I_E = 5\text{mA}, f = 100\text{MHz}$		250		MHz

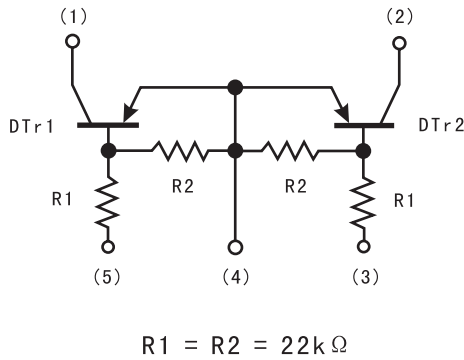
\* Characteristics of built-in transistor

### ■ Marking

Marking	A1
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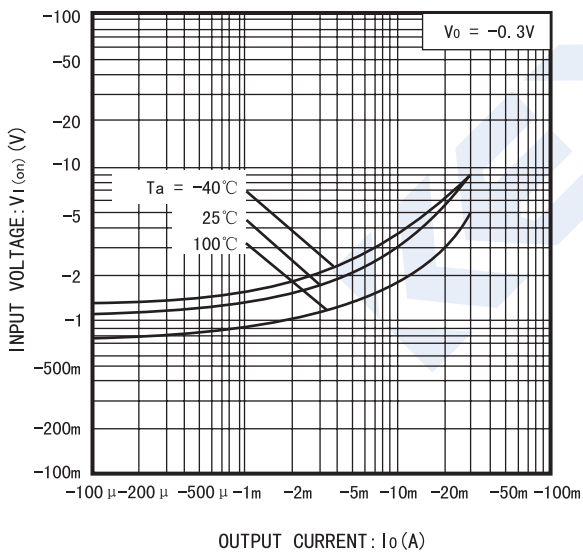
### FMA1A

■ Equivalent Circuit

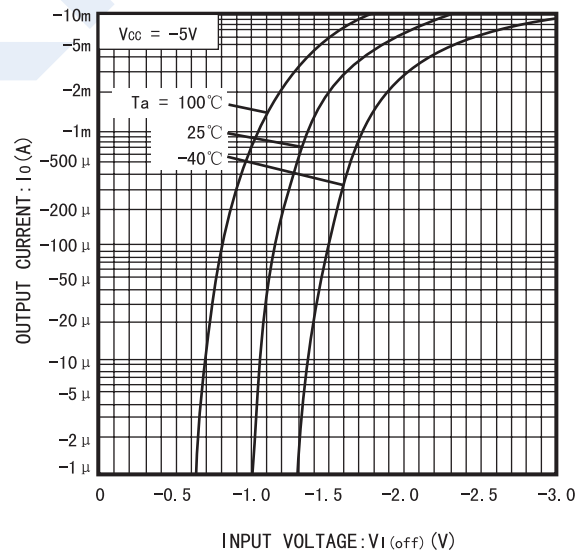


- (1) OUT
- (2) OUT
- (3) IN
- (4) GND
- (5) IN

■ Electrical Characteristics Curves

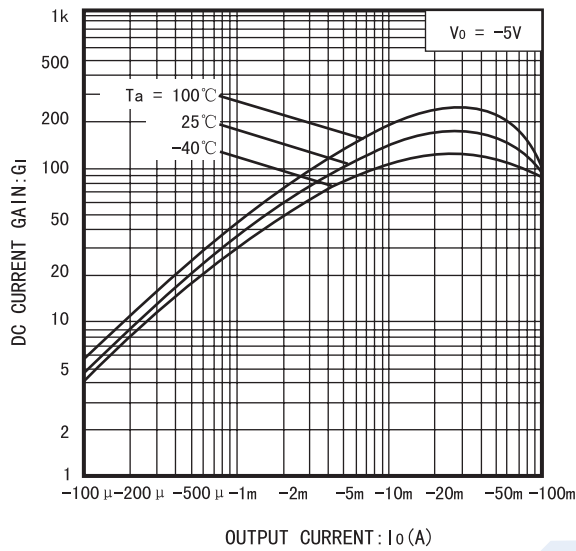


Input voltage vs. output current  
(ON characteristics)

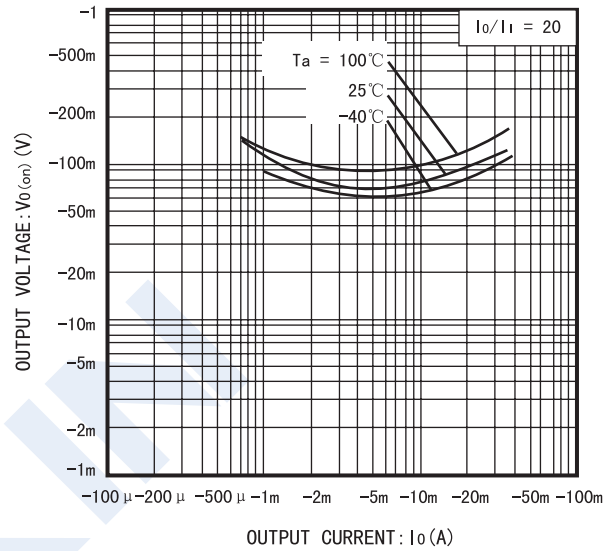


Output current vs. input voltage  
(OFF characteristics)

FMA1A



DC current gain vs. Output current



Output voltage vs. Output current