NEC
ELECTRON DEVICE

TRANSISTOR ARRAY
μPA79C

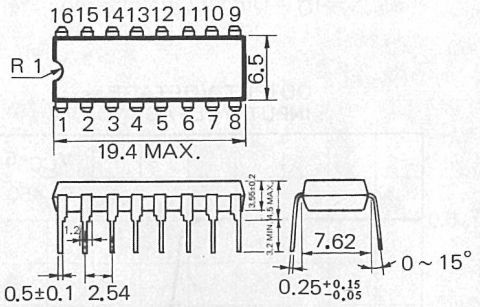
MINI PRINTER DRIVER
NPN SILICON EPITAXIAL TRANSISTOR ARRAY

DESCRIPTION

The μPA79C is a monolithic array of seven transistors.
This device is especially suited for driving low supply voltage printer with up to 0.1 A output current per unit.

PACKAGE DIMENSIONS

in millimeters



FEATURES

- Low Saturation Voltage → $V_{CE(sat)} \leqq 0.6$ V
- High DC Current Gain → $h_{FE} \geqq 1000$
- Reverse Bias Protected Inputs
- Transient Protected Outputs
- Package is 16 pin PLASTIC DIP

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents (Ta = 25 °C)

Supply Voltage	V_{CC}	20	V
Input Voltage	V_I	−40 to + 30	V
Output Voltage	V_O	20	V
Continuous Output Current	$I_{C(DC)}$**	200	mA/unit
Peak Output Current	I_C*	150	mA/unit
Maximum Power Dissipation			
Total Power Dissipation	Pd	550	mW/package
Maximum Temperature			
Operating Temperature	T_{opt}	−25 to + 75	°C
Storage Temperature	T_{stg}	−40 to +125	°C

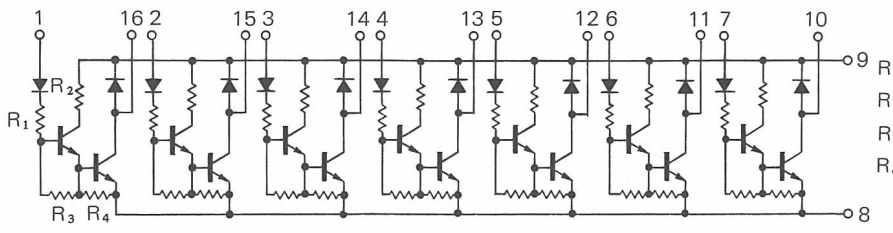
**DC (1 unit)

* PW ≦ 30 ms, duty cycle ≦ 10 % (The same current for all units)

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

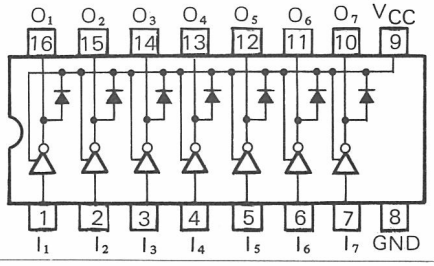
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Output Leakage Current	I_{L1}			10	μA	V_{CC}=20 V, V_I=0
DC Current Gain	h_{FE}	1000	2500			V_{CC}=5 V, V_{CE}=1 V, I_O=120 mA
Collector Saturation Voltage	$V_{CE(sat)}$			0.6	V	V_{CC}=5 V, I_O=120 mA, I_I=0.2 mA
Output Leakage Current	I_{L2}			10	μA	V_{CC}=V_{CE}=5 V, V_I=1.5 V
Input Voltage	V_I			4.0	V	V_{CC}=5 V, V_{CE}=1 V, I_O=120 mA
Forward Voltage (Clamp Diode)	V_F			2.0	V	I_F=120 mA

EQUIVALENT CIRCUIT



R_1 = 20 kΩ
R_2 = 1 kΩ
R_3 = 20 kΩ
R_4 = 2 kΩ

CONNECTION DIAGRAM (Top View)



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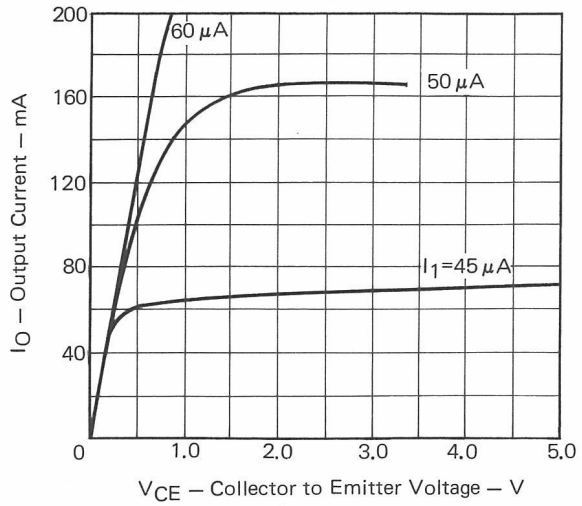
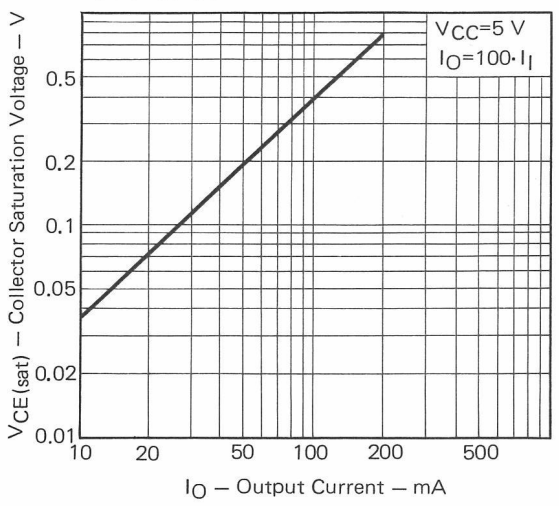
TYPICAL CHARACTERISTICS (Ta = 25 °C)

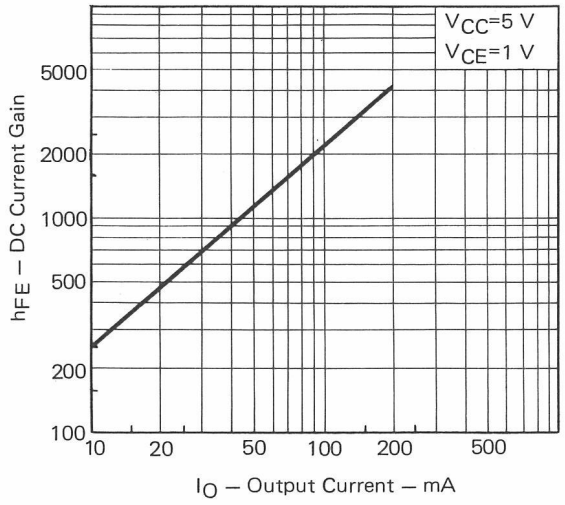
OUTPUT CURRENT vs.
COLLECTOR TO EMITTER VOLTAGE



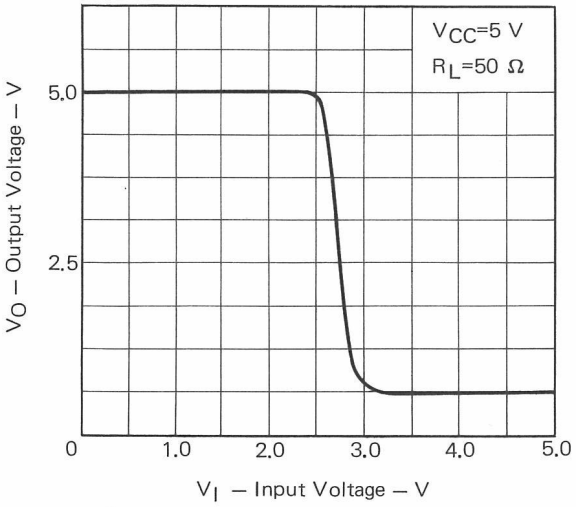
COLLECTOR SATURATION VOLTAGE vs.
OUTPUT CURRENT



DC CURRENT GAIN vs.
OUTPUT CURRENT



OUTPUT VOLTAGE vs.
INPUT VOLTAGE



VO–VI TEST CIRCUIT