

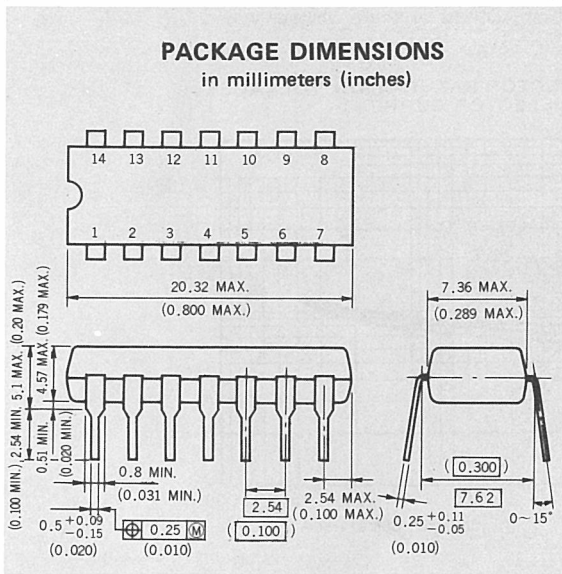
Phase-out/Discontinued

LED, LAMP DRIVER

NPN SILICON EPITAXIAL DARLINGTON TRANSISTOR ARRAY

DESCRIPTION

The μ PA53C is a monolithic array of five darlington transistors. This device is especially suited for driving LED, lamps and printer hummers with MOS output signal.



FEATURES

- High DC current gain.
- High output drive current.
- Package is 14 pin plastic DIP (Dual In-Line Package).

ABSOLUTE MAXIMUM RATINGS

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

Collector to Base Voltage ($R_{BE} = \infty$)	V_{CBO}	30	V
Collector to Emitter Voltage (Open Base)	V_{CEO}	30	V
Input Voltage	V_{IN}	30	V
Continuous Collector Current	$I_C(DC)$	0.4	A/unit
Peak Collector Current	I_C^*	2.0	A/package

Maximum Power Dissipation
Total Power Dissipation

P_T^*	1.2	W/package
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Maximum Temperature

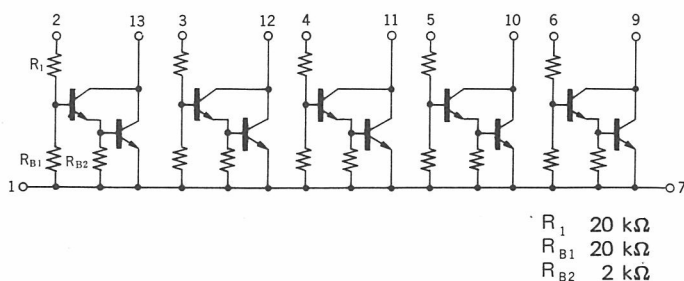
Storage Temperature	T_{stg}	-40 to +125	$^\circ\text{C}$
Operating Temperature	T_{opt}	-25 to +75	$^\circ\text{C}$

*PW = 10 ms, Duty Cycle $\leq 10\%$

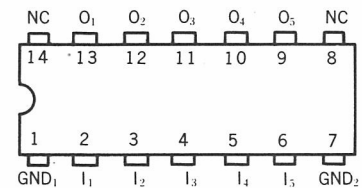
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Circuit Current	I_L		0.5	100	μA	$V_{CE} = 20\text{ V}, V_{IN} = 0$
DC Current Gain	h_{FE}	2000	3200			$V_{CE} = 5.0\text{ V}, I_C = 200\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)1}$		0.9	1.3	V	$I_C = 100\text{ mA}, V_{IN} = 5.0\text{ V}$
Collector Saturation Voltage	$V_{CE(sat)2}$		1.3	2.2	V	$I_C = 400\text{ mA}, V_{IN} = 20\text{ V}$

EQUIVALENT CIRCUIT



CONNECTION DIAGRAM (Top View)

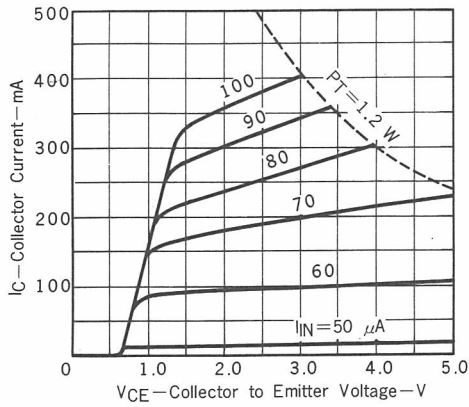


I : Input(Base)
O : Output(Collector)
GND(Common Emitter)

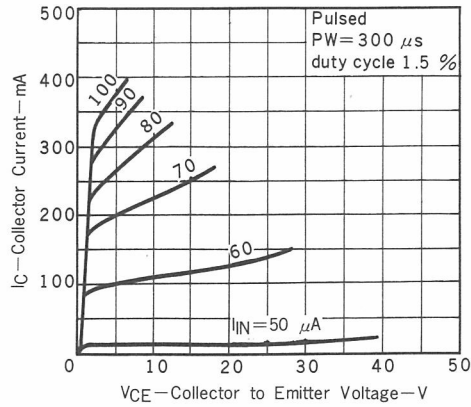
Phase-out/Discontinued

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

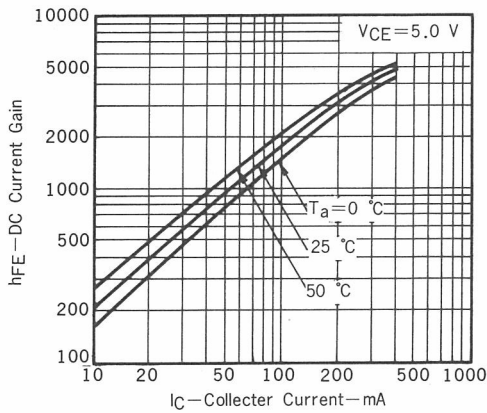
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



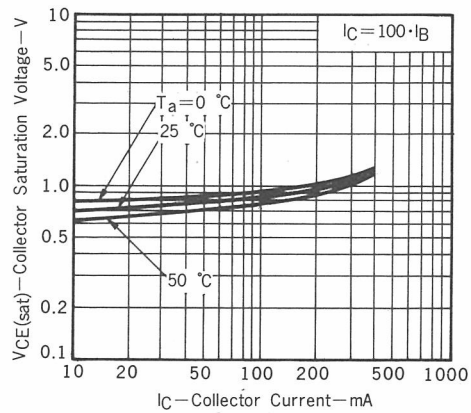
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



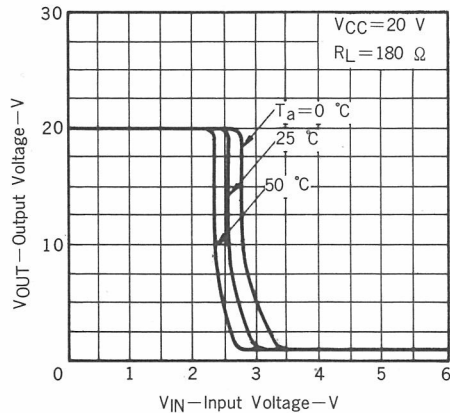
DC CURRENT GAIN vs. COLLECTOR CURRENT



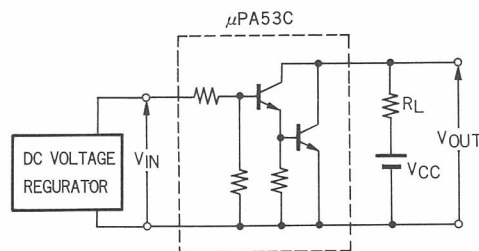
COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



OUTPUT VOLTAGE vs. INPUT VOLTAGE



$V_{OUT}-V_{IN}$ TEST CIRCUIT



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