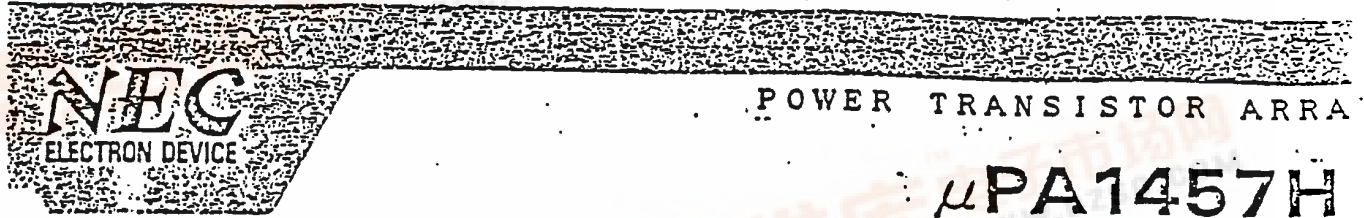


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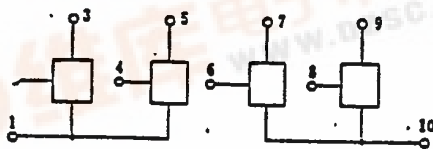
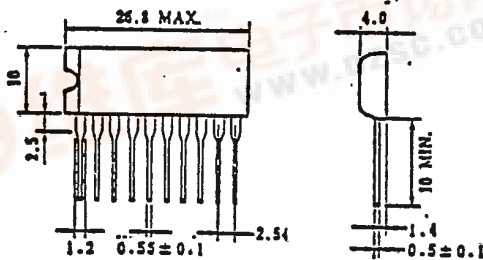


PNP SILICON EPITAXIAL POWER TRANSISTOR ARRAY
LOW SPEED SWITCHING (DARLINGTON)

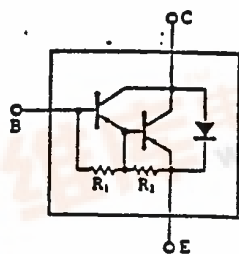
DESCRIPTION

The μ PA1457H is an array of four darlington power transistors. It is especially designed for applications demand for high peak current capability. It is suitable for driving actuators such as solenoids, motors, relays and lamps.

PACKAGE DIMENSIONS (Unit:mm)
AND INTERNAL CONNECTIONS



EQUIVALENT CIRCUIT (1 Unit)



2, 4, 6, 8; Base (B)
3, 5, 7, 9; Collector (C)
1, 10; Emitter (E)

$R_1 \approx 3.0 \text{ k}\Omega$
 $R_2 \approx 300 \Omega$

FEATURES

- High hFE (Darlington)
- High peak current capability
- Easy to mount on plastic substrates
- Able to use with high-density mounting
- Built-in Zener Diode

between Collector and Base

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

Collector to Base Voltage	VCBO	-100V
Collector to Emitter Voltage	VCEO	-100V
Emitter to Base Voltage	VEBO	-7.0V
Collector Current (DC)	IC(DC)	$\approx 5.0\text{A/unit}$
Collector Current (pulse)	IC(pulse)	$\approx 10\text{A/unit}$
Base Current (DC)	IB(DC)	-0.5A/unit
Total Power Dissipation	PT**	3.5W
Total Power Dissipation	PT***	28W
Junction Temperature	TJ	150 °C
Storage Temperature	Tstg	-55 to +150 °C

* $PW \leq 300 \mu\text{s}$, Duty Cycle $\leq 10\%$

** When all units are used, $T_a=25^\circ\text{C}$

*** When all units are used, $T_c=25^\circ\text{C}$

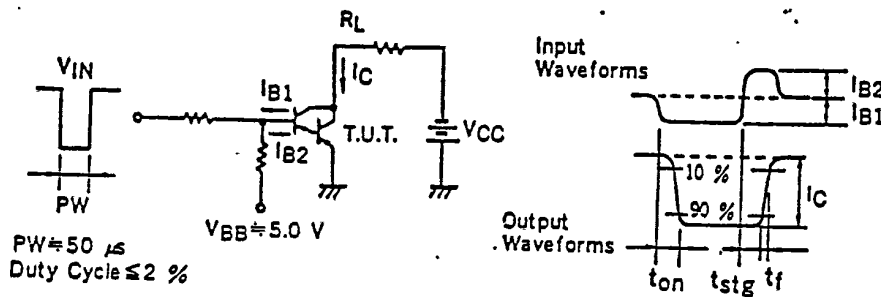


ELECTRICAL CHARACTERISTICS (Ta=25°C)

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	ICBO			-10	μA	VCE=-100V, IE=0
Emitter Cutoff Current	IEBO			-10	mA	VEB=-5.0V, IC=0
DC Current Gain	hFE1*	2000	5000	20000	-	VCE=-2.0V, IC=-2.0A
DC Current Gain	hFE2*	500	3000		-	VCE=-2.0V, IC=-4.0A
Collector to Emitter Saturation Voltage	VCE(sat)*		-1.0	-1.5	V	IC=-2.0A, IB=-2.0mA
Base to Emitter Saturation Voltage	VBE(sat)*		-1.6	-2.0	V	IC=-2.0A, IB=-2.0mA
Turn-On Time	ton		1.0		μs	IC=-2.0A
Storage Time	tstg		3.0		μs	IB1=-IB2=-2.0mA
Fall Time	tf		1.0		μs	RL=25 Ω, VCC=-50V See Test Circuit.

*Pulsed/PW ≤ 350 μs, Duty Cycle ≤ 2%

SWITCHING TIME (ton, tstg, tf) TEST CIRCUIT



NEC ELECTRON DEVICE

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

