



POWER TRANSISTOR ARRAY

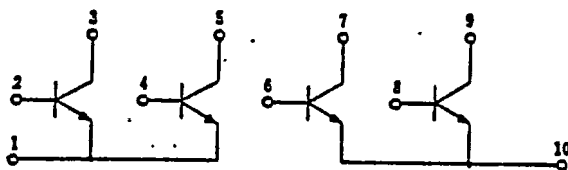
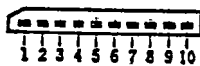
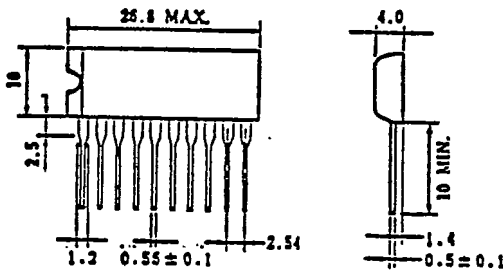
μPA1452H

NPN SILICON EPITAXIAL POWER TRANSISTOR ARRAY
HIGH SPEED SWITCHING

DESCRIPTION

The μPA1452H is an array of four 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



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

FEATURES

- High hFE: hFE=100 to 400 at IC=2A
- Low VCE(sat): VCE(sat)=0.3V MAX at IC=2A
- High peak current capability
- Easy to mount on plastic substrates
- Able to use with high-density mounting

ABSOLUTE MAXIMUM RATINGS

Collector to Base Voltage	VCBO	60V
Collector to Emitter Voltage	VCEO	60V
Emitter to Base Voltage	VEBO	7.0V
Collector Current(DC)	IC(DC)	5.0A/unit
Collector Current(pulse)	IC(pulse)*	10A/unit
Base Current(DC)	IB(DC)	1.0A/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 ≤ 300 μs, Duty Cycle ≤ 10%

** When all units are used, Ta=25 °C

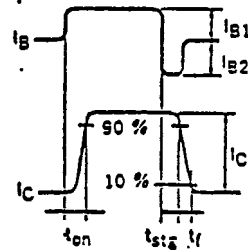
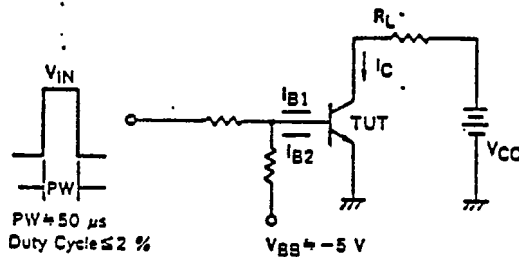
*** When all units are used, Tc=25 °C

ELECTRICAL CHARACTERISTICS (Ta=25°C)

ITEM	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	ICBO			10	μA	V _{CB} =50V, I _E =0
Emitter Cutoff Current	IEBO			10	μA	V _{EB} =5.0V, I _C =0
DC Current Gain	hFE1*	60	180		-	V _{CE} =1.0V, I _C =0.1A
DC Current Gain	hFE2*	100	200	400	-	V _{CE} =1.0V, I _C =2.0A
DC Current Gain	hFE3*	50	150		-	V _{CE} =1.0V, I _C =5.0A
Collector to Emitter Saturation Voltage	VCE(sat)*		0.1	0.3	V	I _C =2.0A, I _B =0.2A
Base to Emitter Saturation Voltage	VBE(sat)*		0.9	1.2	V	I _C =2.0A, I _B =0.2A
Turn-On Time	t _{on}			1.0	μs	I _C =2A
Storage Time	t _{stg}			2.5	μs	I _{B1} =-I _{B2} =0.2A
Fall Time	t _f			1.0	μs	R _L =15 Ω, V _{CC} ≒30V See Test Circuit.

*Pulsed/PW ≦ 350 μs, Duty Cycle ≦ 2%

SWITCHING TIME (t_{on}, t_{stg}, t_f) TEST CIRCUIT



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

