

# SILICON TRANSISTOR ARRAY

# $\mu$ PA1434

## NPN SILICON POWER TRANSISTOR ARRAY

## LOW SPEED SWITCHING USE

## INDUSTRIAL USE

### DESCRIPTION

The  $\mu$ PA1434 is NPN silicon epitaxial Power Transistor Array that built in 4 circuits designed for driving solenoid, relay, lamp and so on.

### FEATURES

- Easy mount by 0.1 inch of terminal interval.
- High  $h_{FE}$ . Low  $V_{CE(sat)}$ .  
 $h_{FE} = 800$  to  $3200$  (at  $I_C = 0.5$  A)  
 $V_{CE(sat)} = 0.5$  V MAX. (at  $I_C = 2$  A)

### ORDERING INFORMATION

Part Number	Package	Quality Grade
$\mu$ PA1434H	10 Pin SIP	Standard

Please refer to "Quality grade on NEC Semiconductor Device" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

### ABSOLUTE MAXIMUM RATINGS ( $T_a = 25$ °C)

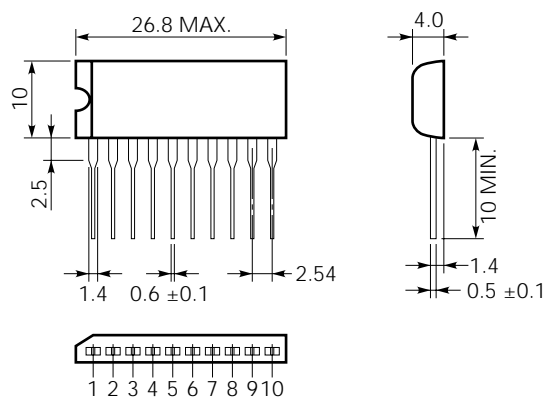
Collector to Base Voltage	$V_{CBO}$	60	V
Collector to Emitter Voltage	$V_{CEO}$	60	V
Emitter to Base Voltage	$V_{EBO}$	7	V
Collector Current (DC)	$I_{C(DC)}$	3	A/unit
Collector Current (pulse)	$I_{C(pulse)}^*$	6	A/unit
Base Current (DC)	$I_{B(DC)}$	0.6	A/unit
Total Power Dissipation	$P_{T1}^{**}$	3.5	W
	( $T_a = 25$ °C)		
Total Power Dissipation	$P_{T2}^{**}$	28	W
	( $T_c = 25$ °C)		
Junction Temperature	$T_j$	150	°C
Storage Temperature	$T_{stg}$	-55 to +150	°C

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

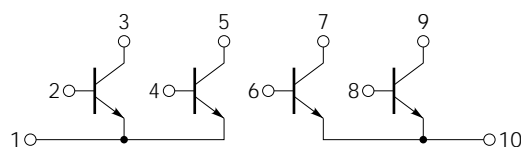
\*\* 4 Circuits

### PACKAGE DIMENSION

#### (in millimeters)



### CONNECTION DIAGRAM



#### PIN NO.

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

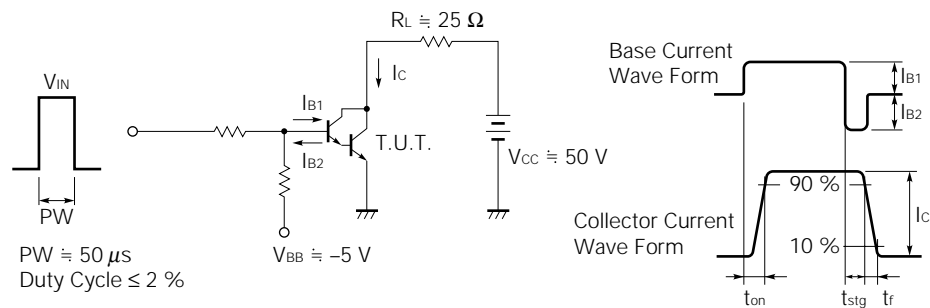
The information in this document is subject to change without notice.

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

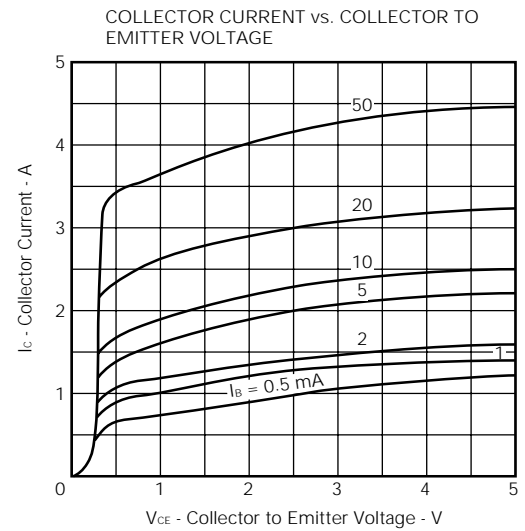
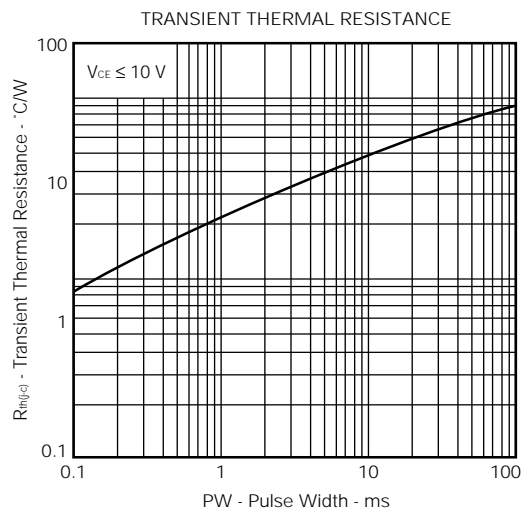
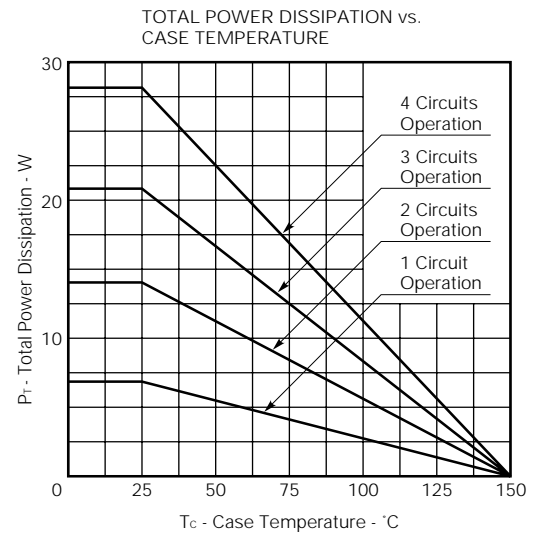
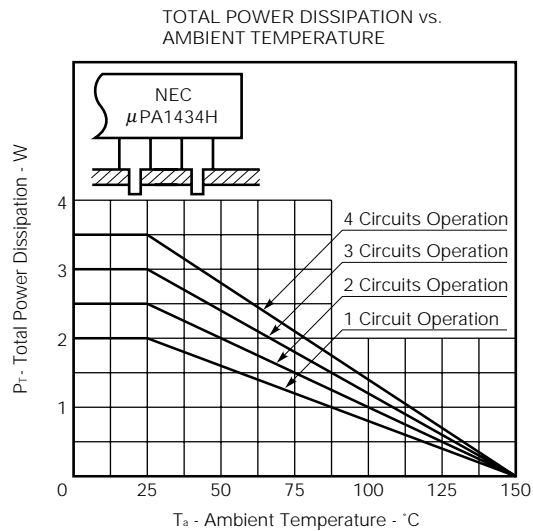
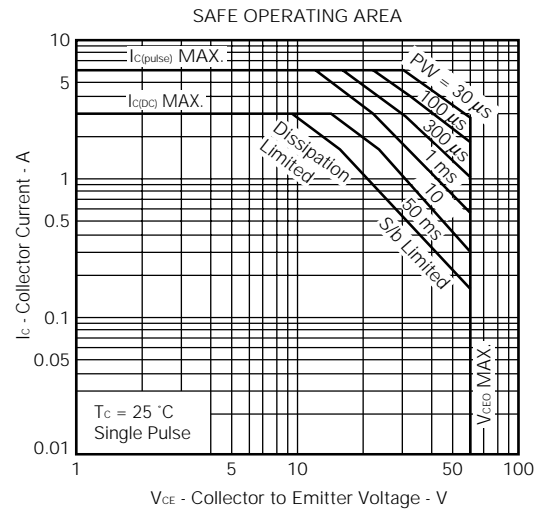
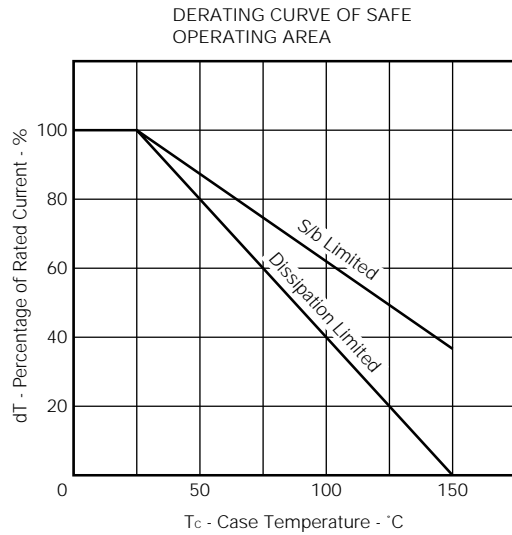
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Leakage Current	$I_{CBO}$			10	$\mu\text{A}$	$V_{CB} = 60\text{ V}$ , $I_E = 0$
Emitter Leakage Current	$I_{EBO}$			10	$\mu\text{A}$	$V_{EB} = 5\text{ V}$ , $I_C = 0$
DC Current Gain	$h_{FE1}$ *	800		3200	—	$V_{CE} = 5\text{ V}$ , $I_C = 0.5\text{ A}$
DC Current Gain	$h_{FE2}$ *	500			—	$V_{CE} = 5\text{ V}$ , $I_C = 3\text{ A}$
Collector Saturation Voltage	$V_{CE(sat)}$ *			0.5	V	$I_C = 2\text{ A}$ , $I_B = 20\text{ mA}$
Base Saturation Voltage	$V_{BE(sat)}$ *			1.2	V	$I_C = 2\text{ A}$ , $I_B = 20\text{ mA}$
Turn On Time	$t_{on}$		1		$\mu\text{s}$	$I_C = 2\text{ A}$ $I_{B1} = -I_{B2} = 10\text{ mA}$ $V_{CC} \approx 50\text{ V}$ , $R_L \approx 25\text{ }\Omega$ See test circuit
Storage Time	$t_{stg}$		3		$\mu\text{s}$	
Fall Time	$t_f$		1.5		$\mu\text{s}$	

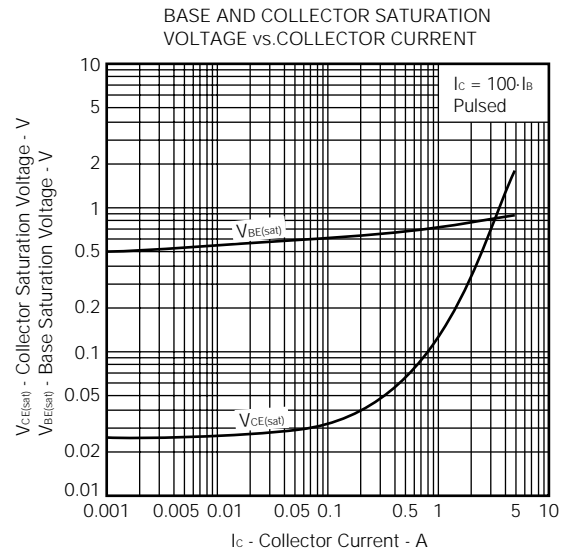
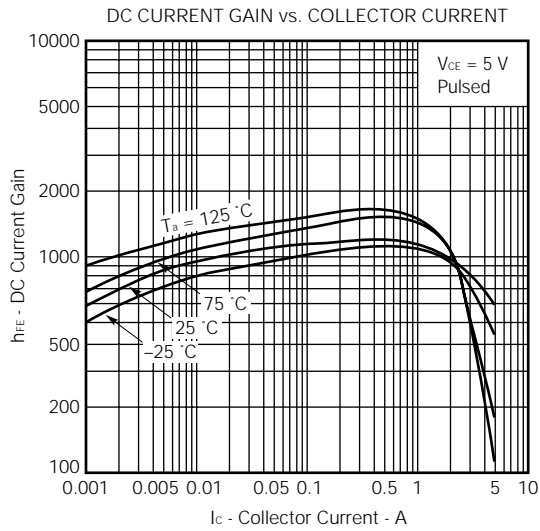
\*  $PW \leq 350\text{ }\mu\text{s}$ , Duty Cycle  $\leq 2\%$  /pulsed

## SWITCHING TIME TEST CIRCUIT



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





## REFERENCE

Document Name	Document No.
NEC semiconductor device reliability/quality control system.	TEI-1202
Quality grade on NEC semiconductor devices.	IEI-1209
Semiconductor device mounting technology manual.	IEI-1207
Semiconductor device package manual.	IEI-1213
Guide to quality assurance for semiconductor devices.	MEI-1202
Semiconductor selection guide.	MF-1134

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