

SILICON TRANSISTOR ARRAY
 μ PA1436A

NPN SILICON POWER TRANSISTOR ARRAY
 HIGH SPEED SWITCHING USE (DARLINGTON TRANSISTOR)
 INDUSTRIAL USE

DESCRIPTION

The μ PA1436A is NPN silicon epitaxial Darlington 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} for Darlington Transistor.
- C-E Reverse Diode built in.
- High Speed Switching.

ORDERING INFORMATION

Part Number	Package	Quality Grade
μ PA1436AH	10 Pin SIP	Standard

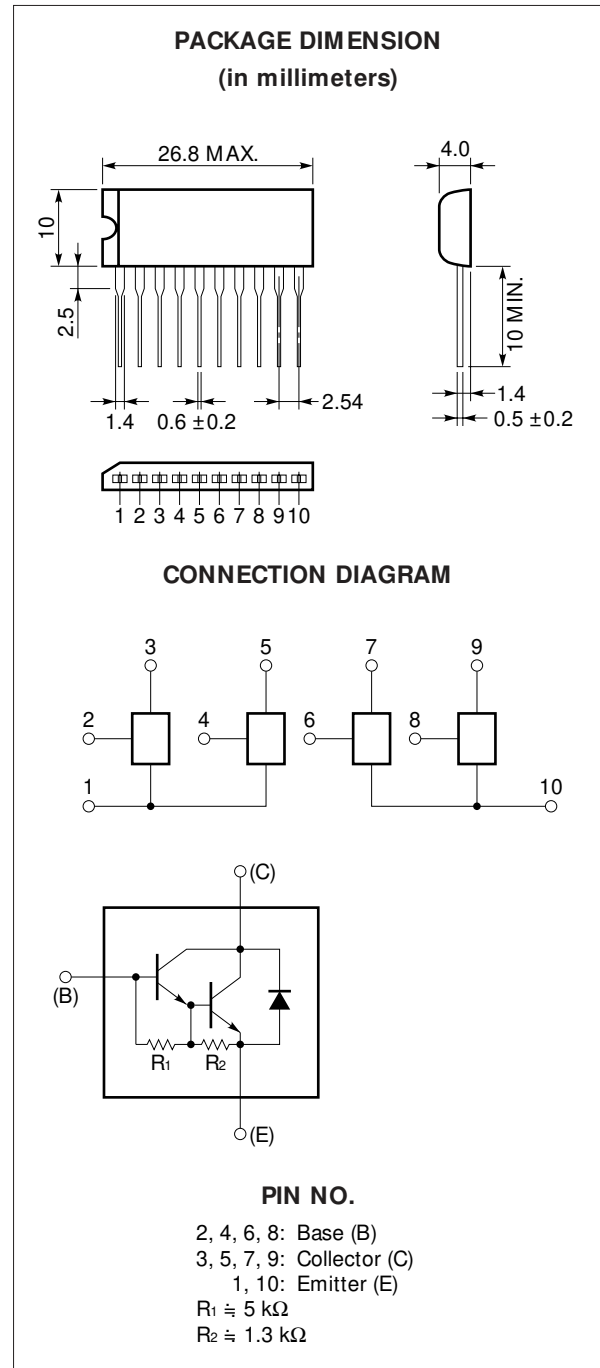
Please refer to "Quality grade on NEC Semiconductor Device" (Document number IEI-1209) published by NEC Corporation to know the specification of quality grade on the devices and its recommended applications.

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

Collector to Base Voltage	V_{CBO}	150	V
Collector to Emitter Voltage	V_{CEO}	100	V
Emitter to Base Voltage	V_{EBO}	8	V
Collector Current (DC)	$I_{C(DC)}$	± 3	A/unit
Collector Current (pulse)	$I_{C(pulse)^*}$	± 5	A/unit
Base Current (DC)	$I_{B(DC)}$	0.3	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 350 μ s, Duty Cycle \leq 2 %

** 4 Circuits



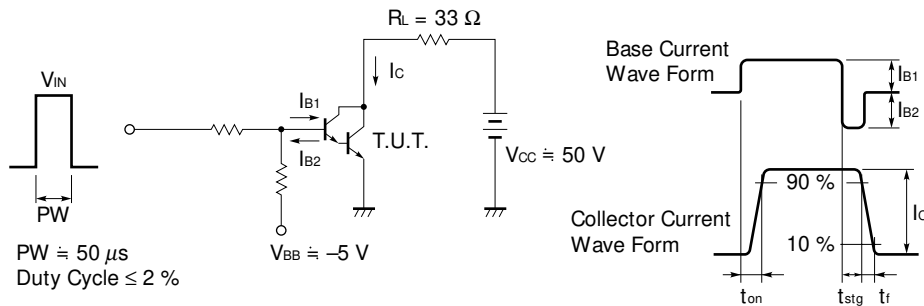
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ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

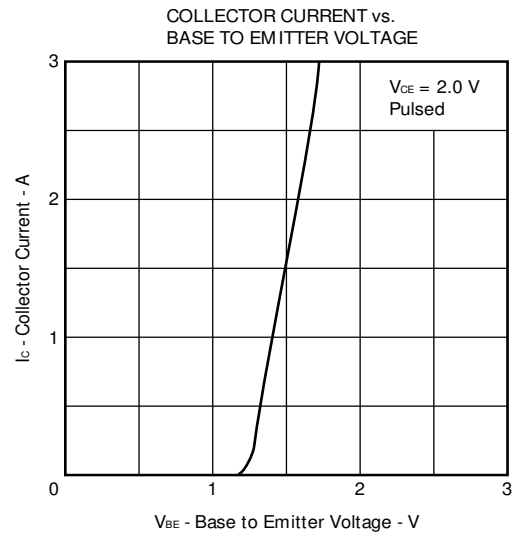
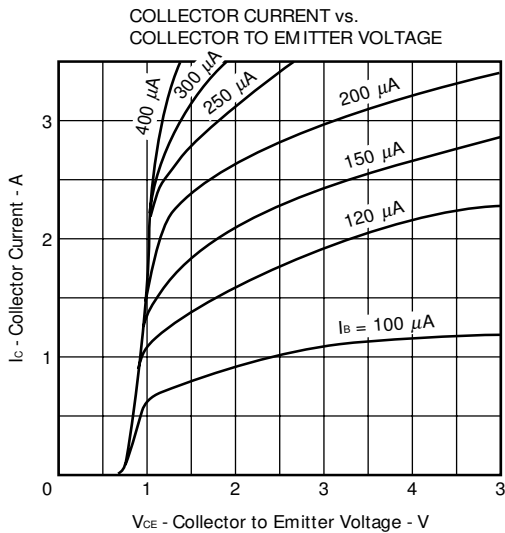
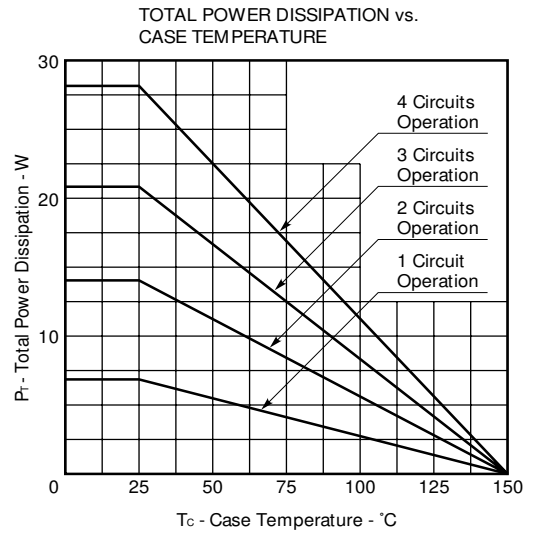
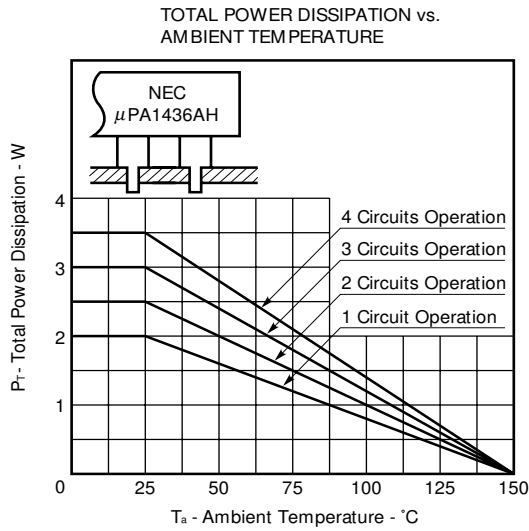
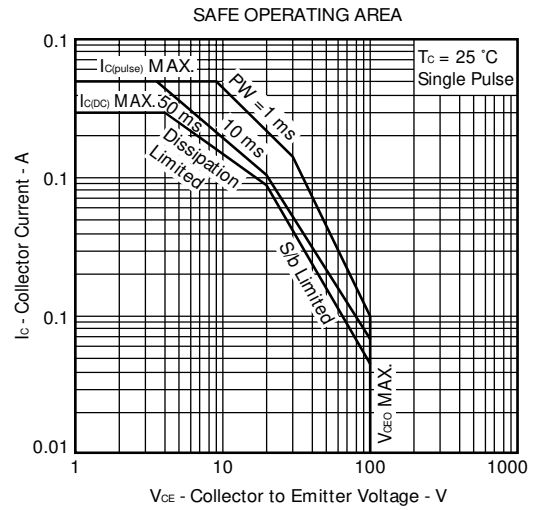
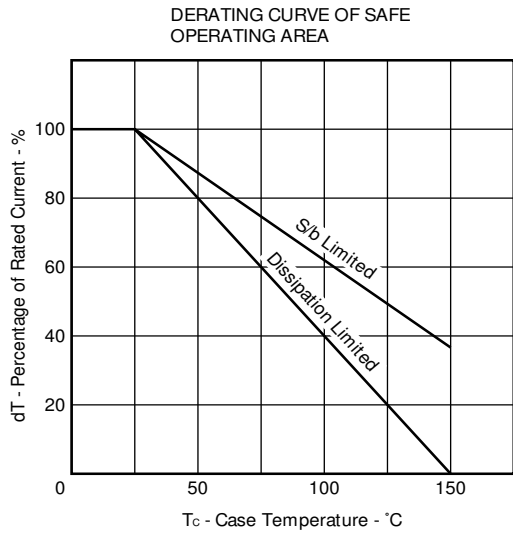
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Leakage Current	I_{CBO}			1	μA	$V_{CB} = 100 V, I_E = 0$
Emitter Leakage Current	I_{EBO}			5	mA	$V_{EB} = 5 V, I_C = 0$
DC Current Gain	h_{FE1} *	2000		20000	—	$V_{CE} = 2 V, I_C = 1.5 A$
DC Current Gain	h_{FE2} *	1000			—	$V_{CE} = 2 V, I_C = 3 A$
Collector Saturation Voltage	$V_{CE(sat)}$ *		1	1.5	V	$I_C = 1.5 A, I_B = 1.5 mA$
Base Saturation Voltage	$V_{BE(sat)}$ *		1.8	2	V	$I_C = 1.5 A, I_B = 1.5 mA$
Turn On Time	t_{on}		0.3		μs	$I_C = 1.5 A$
Storage Time	t_{stg}		1.5		μs	$I_{B1} = -I_{B2} = 3 mA$ $V_{CC} \approx 50 V, R_L = 33 \Omega$
Fall Time	t_f		0.4		μs	See test circuit

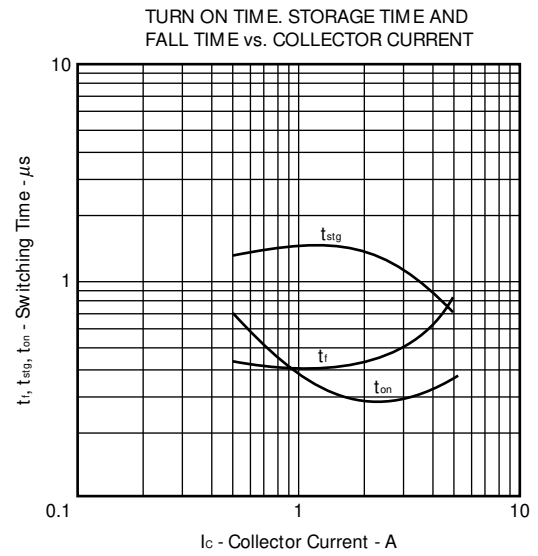
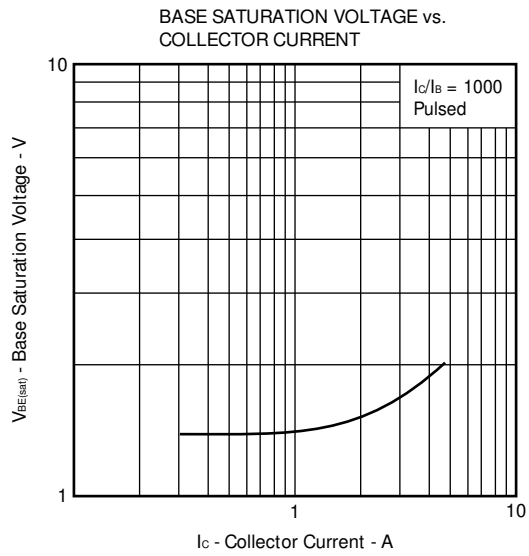
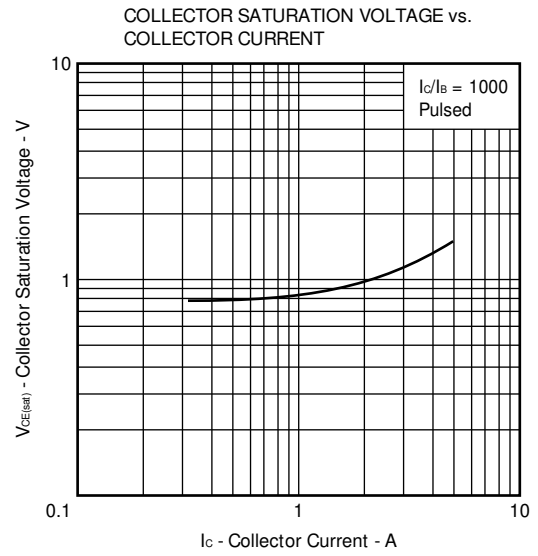
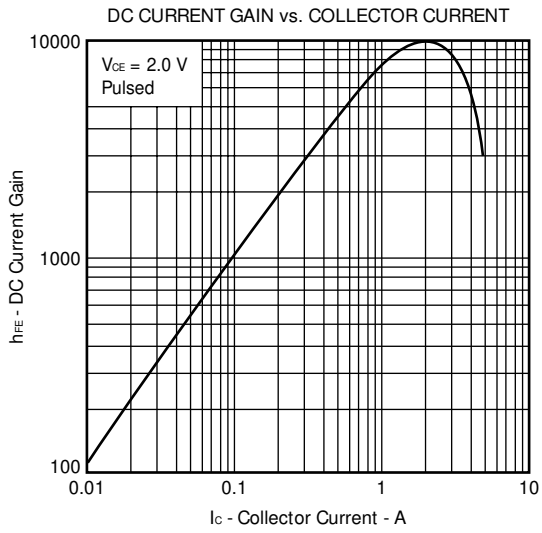
* $PW \leq 350 \mu s$, Duty Cycle $\leq 2\%$ /pulsed

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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