

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

DESCRIPTION

The μ PA1476 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.
- Surge Absorber (Zener Diode) built in.

ORDERING INFORMATION

Part Number	Package	Quality Grade
μ PA1476H	10 Pin SIP	Standard

Please refer to "Quality grade on NEC Semiconductor Devices" (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 ($T_A = 25\text{ }^\circ\text{C}$)

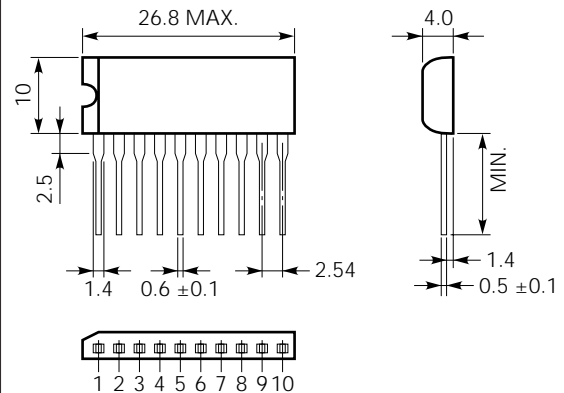
Collector to Base Voltage	V_{CBO}	100 ± 15	V
Collector to Emitter Voltage	V_{CEO}	100 ± 15	V
Emitter to Base Voltage	V_{EBO}	8	V
Collector Current (DC)	$I_{C(DC)}$	± 2	A/unit
Collector Current (pulse)	$I_{C(pulse)^*}$	± 3	A/unit
Base Current (DC)	$I_{B(DC)}$	0.2	A/unit
Total Power Dissipation	$PT1^{**}$	3.5	W
Total Power Dissipation	$PT2^{***}$	28	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

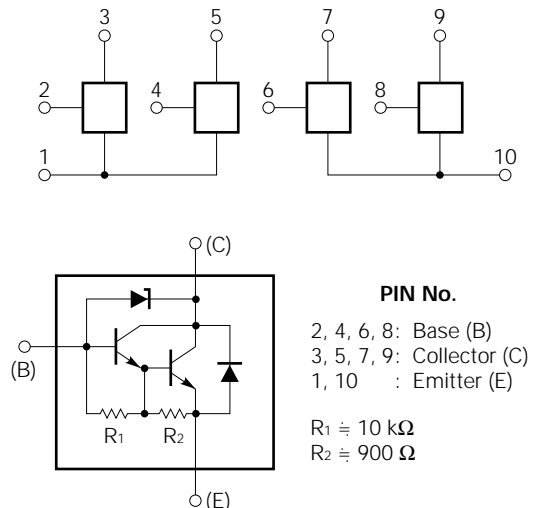
** 4 Circuits, $T_a = 25\text{ }^\circ\text{C}$

*** 4 Circuits, $T_c = 25\text{ }^\circ\text{C}$

PACKAGE DIMENSION
 (in millimeters)



CONNECTION DIAGRAM



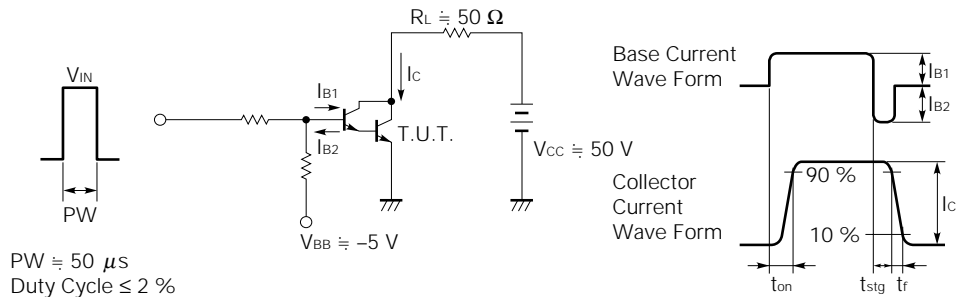
The information in this document is subject to change without notice.

ELECTRICAL CHARACTERISTICS (T_A = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Leakage Current	I _{CBO}			1.0	μA	V _{CB} = 75 V, I _E = 0
Emitter Leakage Current	I _{EBO}			1.0	mA	V _{EB} = 5 V, I _C = 0
DC Current Gain	h _{FE1} *	2000		20000	—	V _{CE} = 2 V, I _C = 1 A
DC Current Gain	h _{FE2} *	500			—	V _{CE} = 2 V, I _C = 2 A
Collector Saturation Voltage	V _{CE(sat)} *			1.5	V	I _C = 1 A, I _B = 1 mA
Base Saturation Voltage	V _{BE(sat)} *			2	V	I _C = 1 A, I _B = 1 mA
Turn On Time	t _{on}		1		μS	I _C = 1 A
Storage Time	t _{stg}		1.2		μS	I _{B1} = -I _{B2} = 2 mA
Fall Time	t _f		0.4		μS	V _{CC} ≐ 50 V, R _L ≐ 50 Ω
						See test circuit

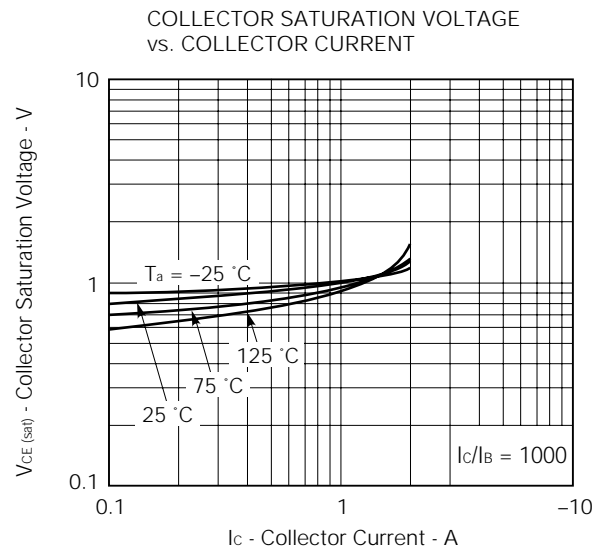
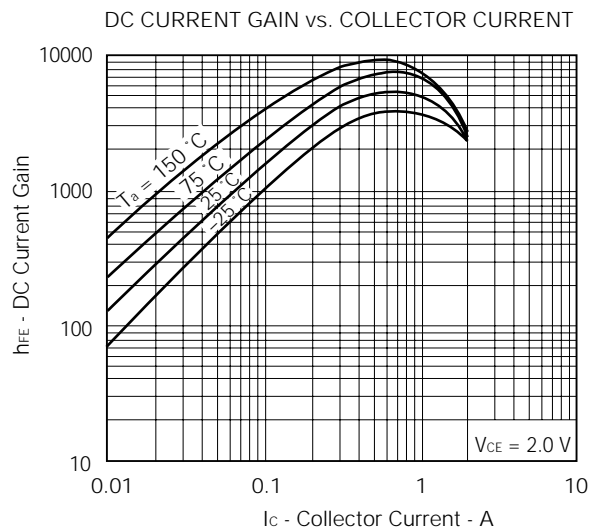
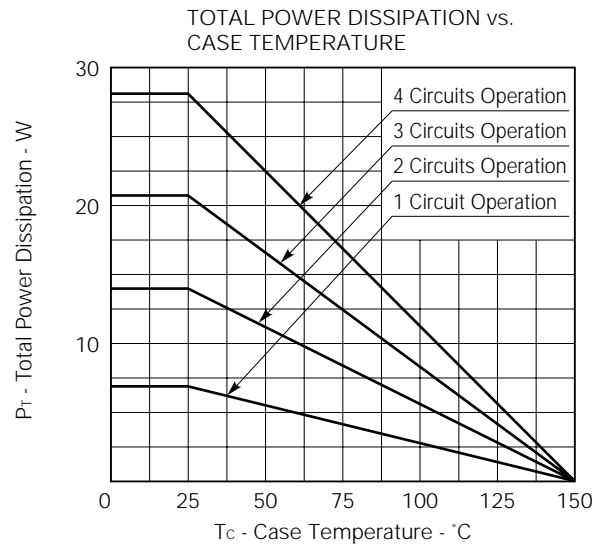
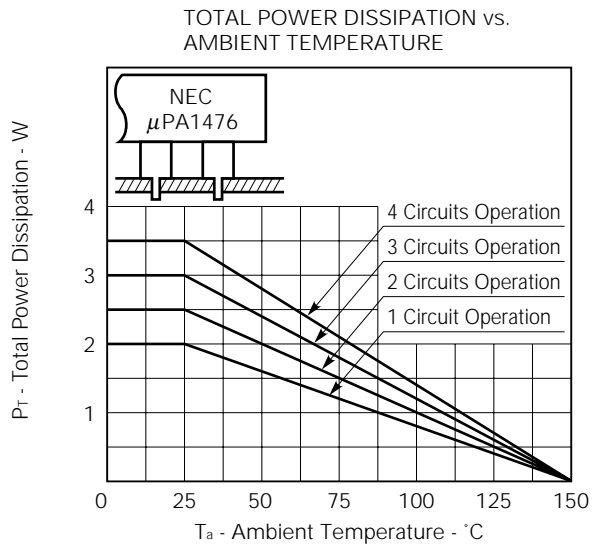
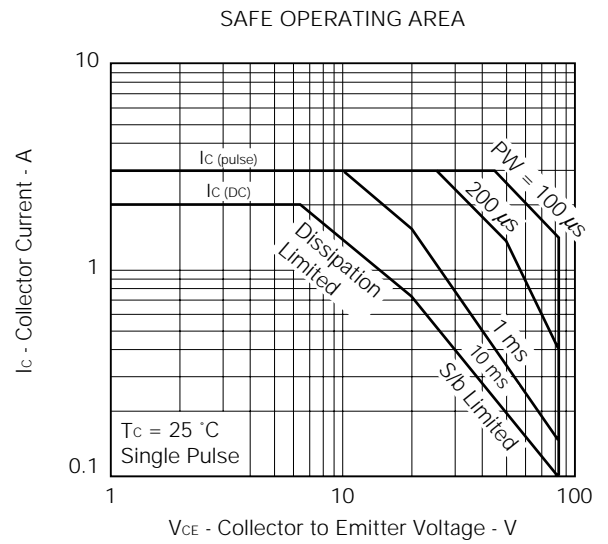
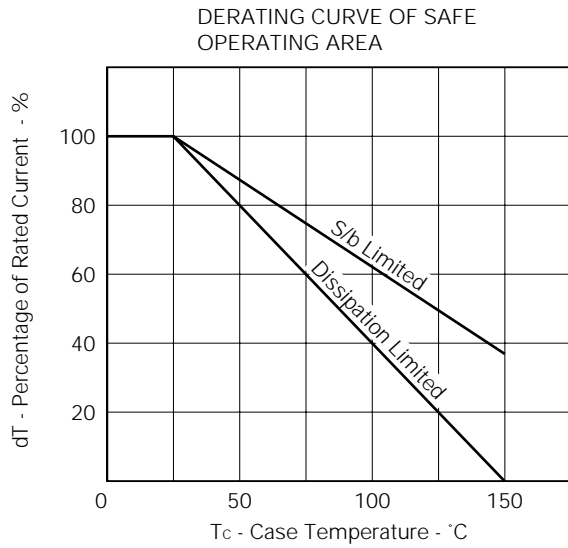
* PW ≤ 350 μs, Duty Cycle ≤ 2 % / pulsed

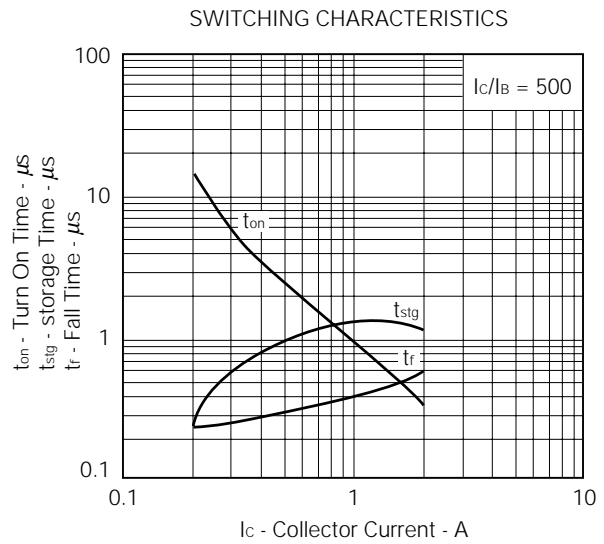
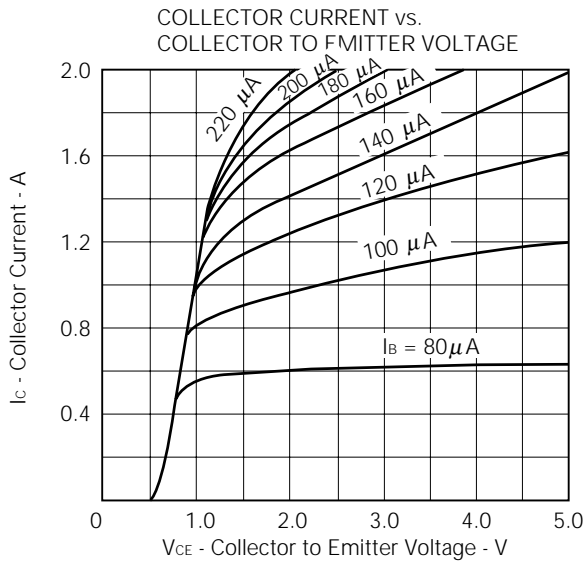
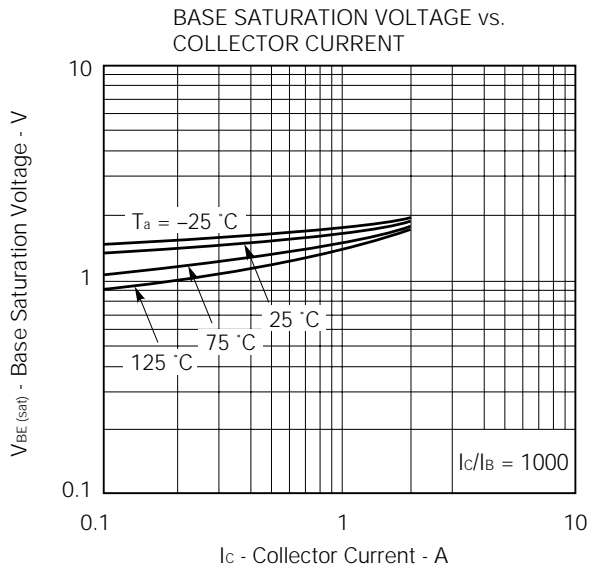
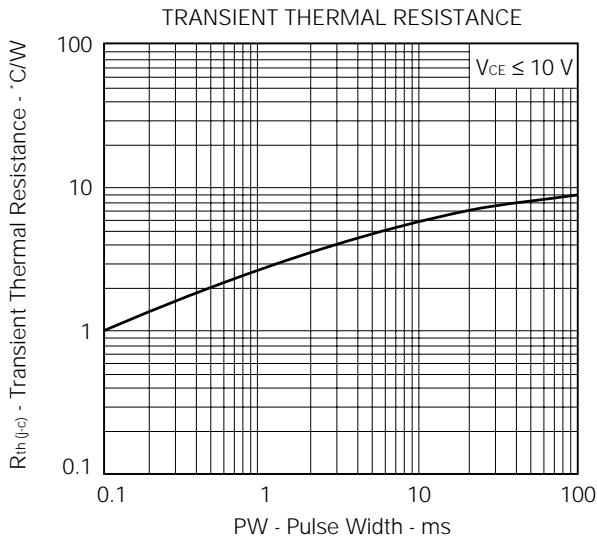
SWITCHING TIME TEST CIRCUIT



The application circuits and their parameters are for references only and are not intended for use in actual design-in's.

TYPICAL CHARACTERISTICS (T_A = 25 °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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