

Phase-out/Discontinued

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

DESCRIPTION

The μ PA1427 is PNP 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.

ORDERING INFORMATION

Part Number	Package	Quality Grade
μ PA1427H	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 ($T_a = 25\text{ }^\circ\text{C}$)

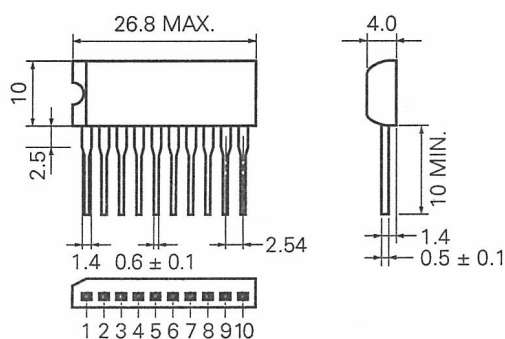
Collector to Base Voltage	V_{CBO}	-80	V
Collector to Emitter Voltage	V_{CEO}	-80	V
Emitter to Base Voltage	V_{EBO}	-7	V
Collector Current (DC)	$I_{C(DC)}$	∓ 2	A/unit
Collector Current (pulse)	$I_{C(pulse)^*}$	∓ 4	A/unit
Base Current (DC)	$I_{B(DC)}$	-0.2	A/unit
Total Power Dissipation ($T_a = 25\text{ }^\circ\text{C}$)	P_{T1}^{**}	3.5	W
Total Power Dissipation ($T_c = 25\text{ }^\circ\text{C}$)	P_{T2}^{**}	28	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

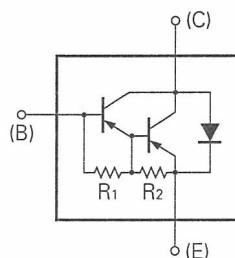
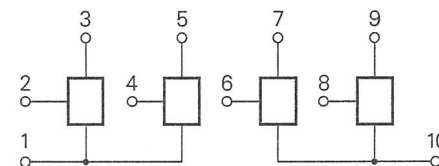
** 4 Circuits

PACKAGE DIMENSION

(in millimeters)



CONNECTION DIAGRAM



PIN No.

- 2, 4, 6, 8: Base (B)
- 3, 5, 7, 9: Collector (C)
- 1, 10: Emitter (E)
- $R_1 \approx 10\text{ k}\Omega$
- $R_2 \approx 500\text{ }\Omega$

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

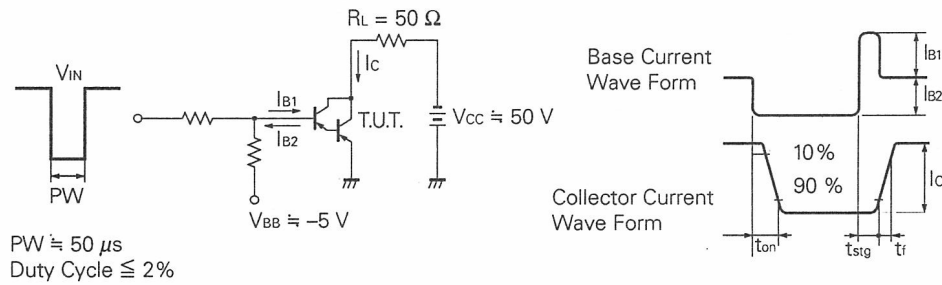
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ELECTRICAL CHARACTERISTICS (T_a = 25 °C)

CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Leakage Current	I _{CB0}			-10	μA	V _{CB} = -80 V, I _E = 0
Emitter Leakage Current	I _{EB0}			-1	mA	V _{EB} = -5 V, I _C = 0
DC Current Gain	h _{FE1} *	1 000	8 000		—	V _{CE} = -2 V, I _C = -0.5 A
DC Current Gain	h _{FE2} *	2 000	9 000	30 000	—	V _{CE} = -2 V, I _C = -1 A
Collector Saturation Voltage	V _{CE(sat)} *		-1.1	-1.5	V	I _C = -1 A, I _B = -1 mA
Base Saturation Voltage	V _{BE(sat)} *		-1.6	-2	V	I _C = -1 A, I _B = -1 mA
Turn-On Time	t _{on}		0.5		μs	I _C = -1 A, I _{B1} = -I _{B2} = -1 mA V _{CC} ≅ -50 V, R _L = 50 Ω See test circuit
Storage Time	t _{stg}		1		μs	
Fall Time	t _f		1		μs	

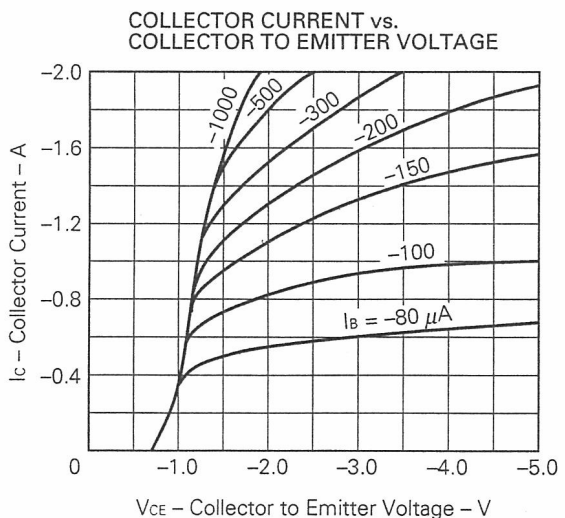
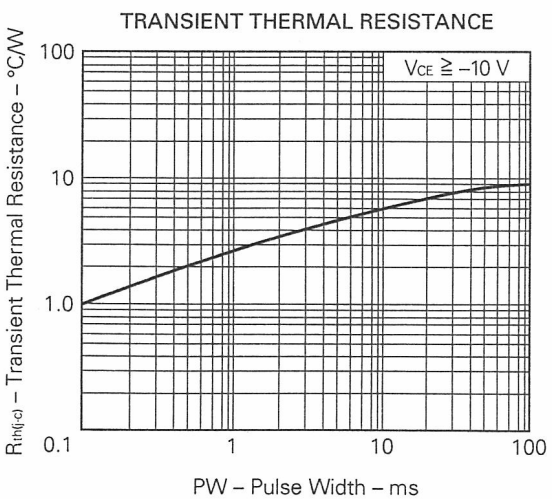
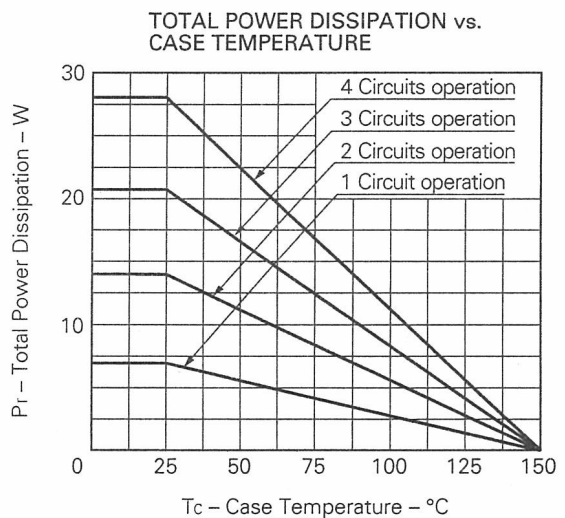
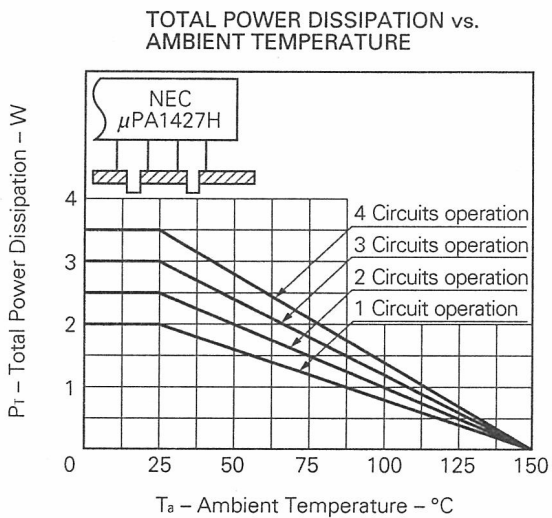
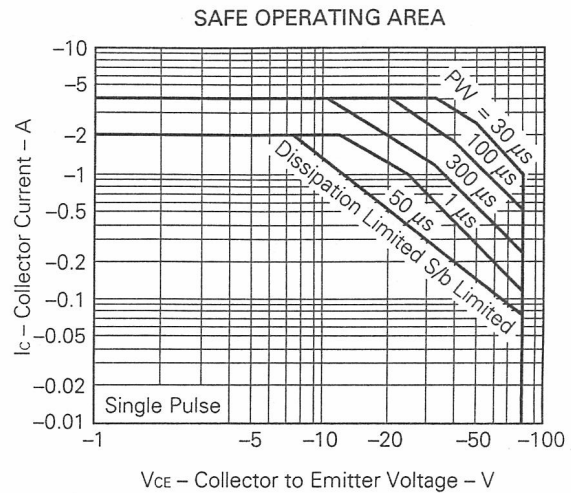
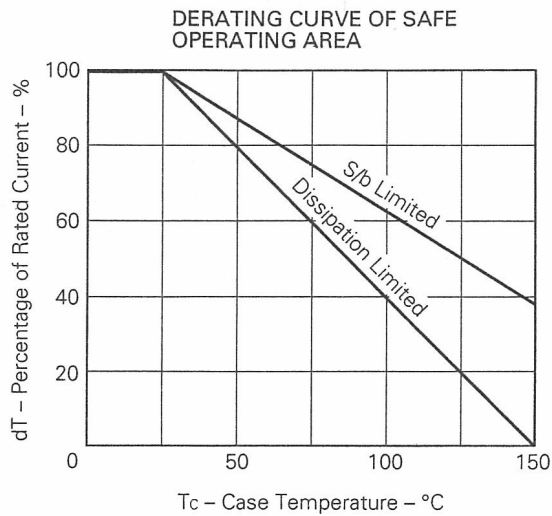
*PW ≅ 350 μs, Duty Cycle ≅ 2% / pulsed

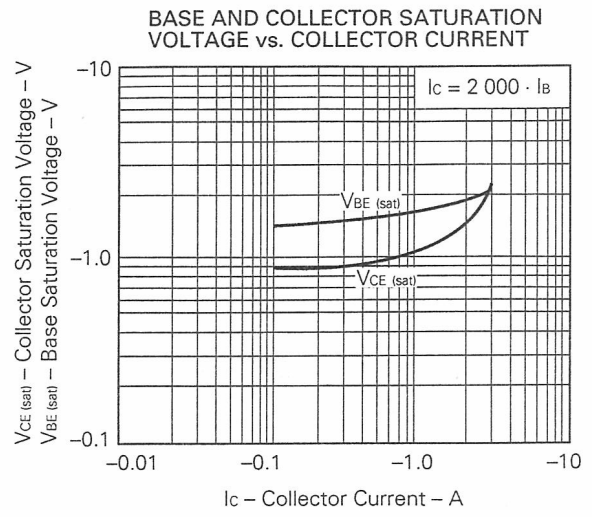
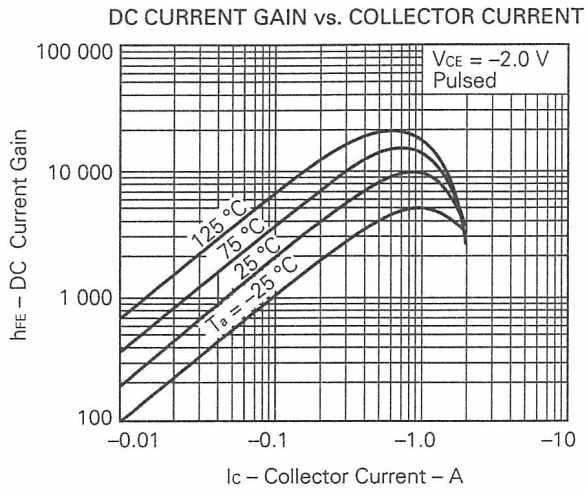
SWITCHING TIME TEST CIRCUIT



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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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