

SILICON TRANSISTOR ARRAY

μ PA1437

PNP SILICON POWER TRANSISTOR ARRAY

LOW SPEED SWITCHING USE (DARLINGTON TRANSISTOR)

INDUSTRIAL USE

DESCRIPTION

The μ PA1437 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 PA1437H	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 ($T_a = 25\text{ }^\circ\text{C}$)

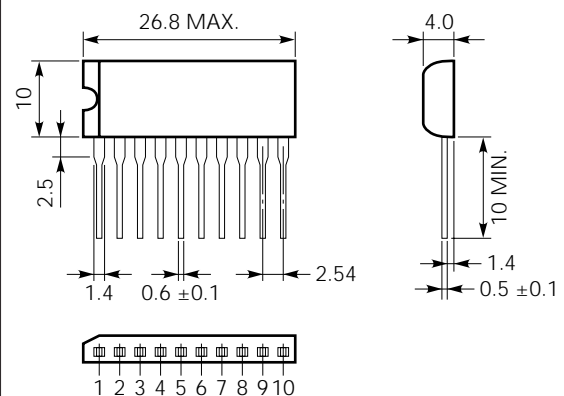
Collector to Base Voltage	V_{CBO}	-100	V
Collector to Emitter Voltage	V_{CEO}	-100	V
Emitter to Base Voltage	V_{EBO}	-7	V
Collector Current (DC)	$I_{C(DC)}$	∓ 3	A/unit
Collector Current (pulse)	$I_{C(pulse)^*}$	∓ 6	A/unit
Base Current (DC)	$I_{B(DC)}$	-0.3	A/unit
Total Power Dissipation	PT_1^{**}	3.5	W
Total Power Dissipation	PT_2^{***}	28	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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

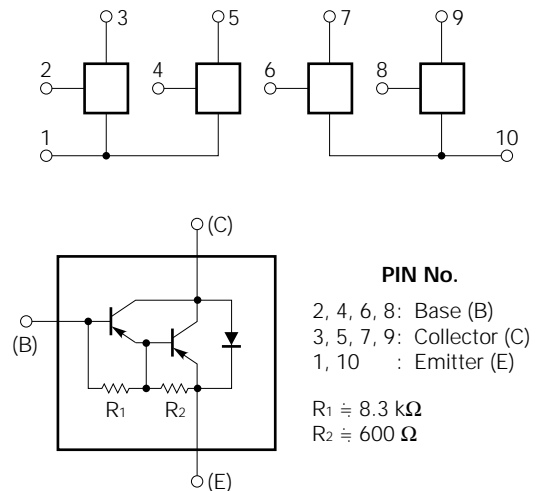
** 4 Circuits, $T_a = 25\text{ }^\circ\text{C}$

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

PACKAGE DIMENSION (in millimeters)



CONNECTION DIAGRAM



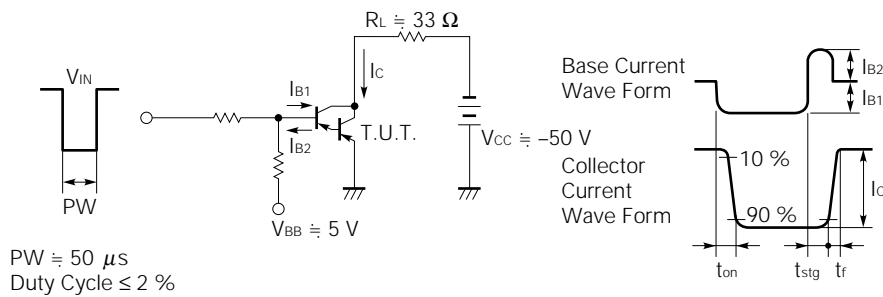
The information in this document is subject to change without notice.

ELECTRICAL CHARACTERISTICS (Ta = 25 °C)

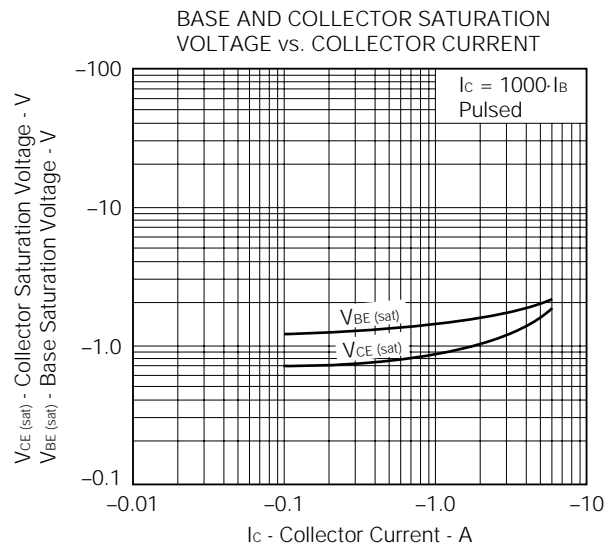
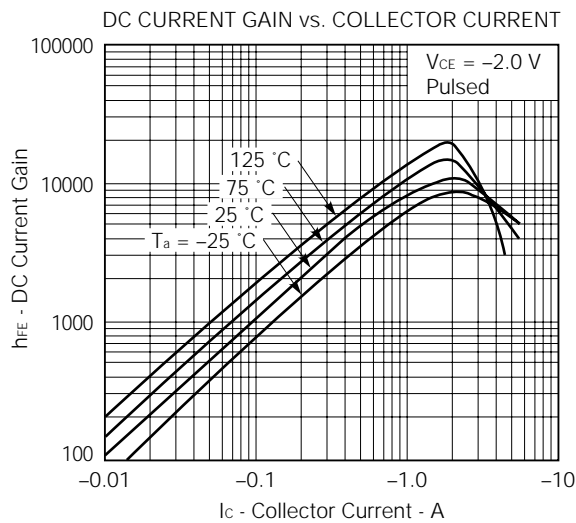
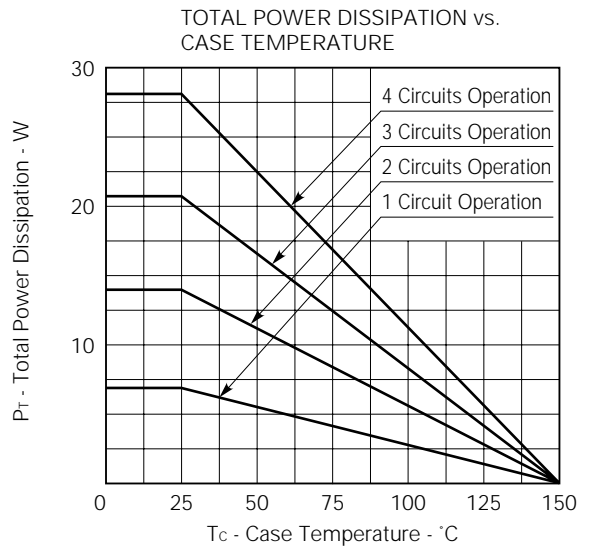
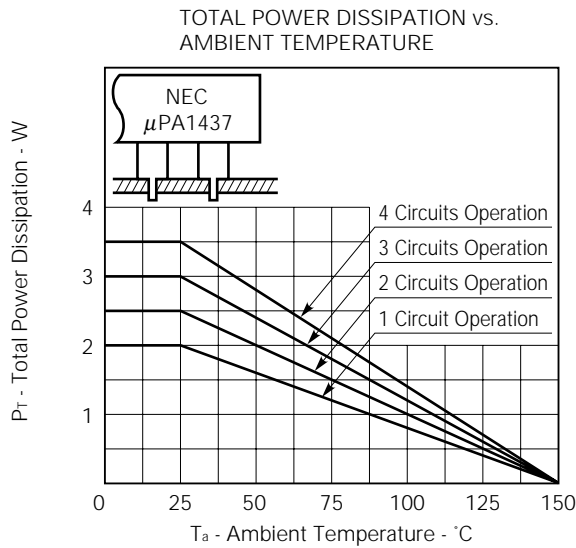
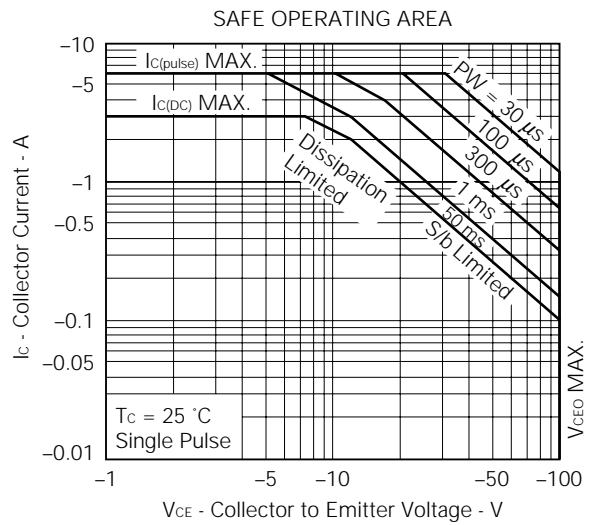
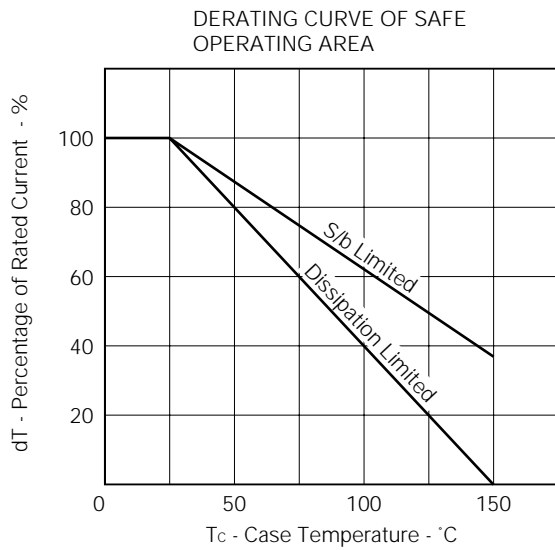
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector to Emitter Sustaining Voltage	V _{CEO(SUS)}	-100			V	I _C = -1.5 A, I _B = -1.5 mA, L = 1 mH
Collector Leakage Current	I _{CBO}			-10	μA	V _{CB} = -100 V, I _E = 0
Emitter Leakage Current	I _{EBO}			-1	mA	V _{EB} = -5 V, I _C = 0
DC Current Gain	h _{FE1} *	1000			—	V _{CE} = -2 V, I _C = -0.5 A
DC Current Gain	h _{FE2} *	2000		20000	—	V _{CE} = -2 V, I _C = -1.5 A
Collector Saturation Voltage	V _{CE(sat)} *		-0.9	-1.2	V	I _C = -1.5 A, I _B = -1.5 mA
Base Saturation Voltage	V _{BE(sat)} *		-1.5	-2	V	I _C = -1.5 A, I _B = -1.5 mA
Turn On Time	t _{on}		1		μs	I _C = -1.5 A
Storage Time	t _{stg}		3		μs	I _{B1} = -I _{B2} = -1.5 mA V _{CC} ≐ 50 V, R _L ≐ 33 Ω
Fall Time	t _f		1		μs	See test circuit

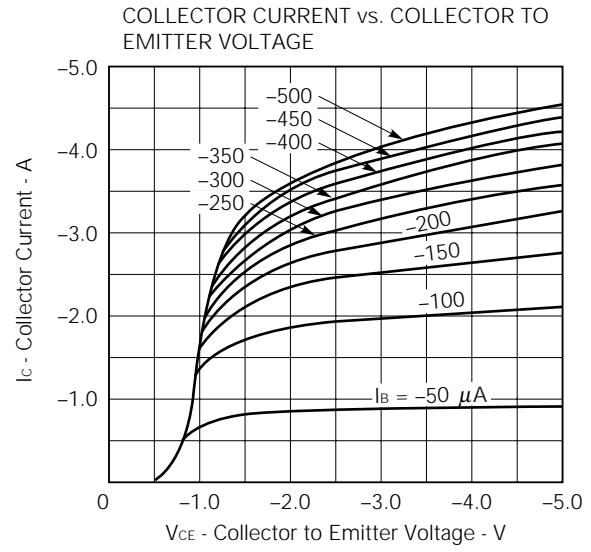
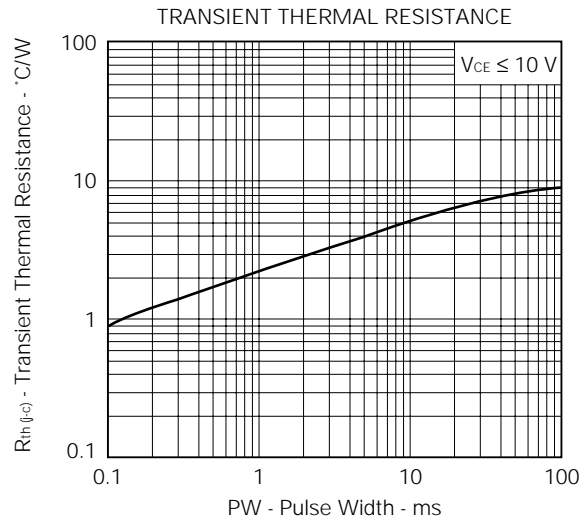
* PW ≤ 350 μs, Duty Cycle ≤ 2 % / pulsed

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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