

**DARLINGTON POWER TRANSISTOR**  
**2SC4810**

**NPN SILICON EPITAXIAL TRANSISTOR (DARLINGTON CONNECTION)**  
**FOR HIGH-SPEED SWITCHING**

The 2SC4810 is a high-speed Darlington power transistor. This transistor is ideal for high-precision control such as PWM control for pulse motors or brushless motors in OA and FA equipment.

In addition, this transistor features a package that can be auto-mounted in radial taping specifications, thus contributing to mounting cost reduction.

**FEATURES**

- Auto-mounting possible in radial taping specifications
- Resin-molded insulation type package with power rating of 1.8 W in stand-alone conditions
- On-chip C-to-E reverse diode
- Fast switching speed

**ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)**

Parameter	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	100	V
Collector to emitter voltage	V <sub>CEO</sub>	100	V
Emitter to base voltage	V <sub>EBO</sub>	8.0	V
Collector current (DC)	I <sub>C(DC)</sub>	±5.0	A
Collector current (pulse)	I <sub>C(pulse)*</sub>	±10	A
Base current (DC)	I <sub>B(DC)</sub>	0.5	A
Total power dissipation	P <sub>T</sub>	1.8	W
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

\* PW ≤ 300 μs, duty cycle ≤ 10%

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 Not all devices/types available in every country. Please check with local NEC representative for availability and additional information.

電特性 (Ta = 25°C)

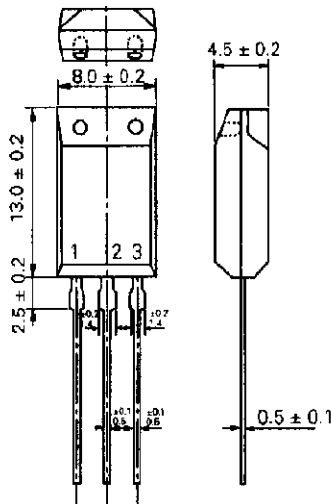
Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Collector to emitter voltage	$V_{CE0(SUS)}$	$I_C = 5\text{ A}$ , $I_B = 5\text{ mA}$ , $L = 180\ \mu\text{H}$	100			V
Collector to emitter voltage	$V_{CEX(SUS)}$	$I_C = 5\text{ A}$ , $I_B = 5\text{ mA}$ $L = 180\ \mu\text{H}$ , clamped	100			V
Collector cutoff current	$I_{CBO}$	$V_{CB} = 100\text{ V}$ , $I_E = 0$			1.0	$\mu\text{A}$
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5\text{ V}$ , $I_C = 0$			5.0	mA
DC current gain	$h_{FE1}^*$	$V_{CE} = 2.0\text{ V}$ , $I_C = 2.0\text{ A}$	2,000		20,000	-
DC current gain	$h_{FE2}^*$	$V_{CE} = 2.0\text{ V}$ , $I_C = 4.0\text{ A}$	500			-
Collector saturation voltage	$V_{CE(sat)}^*$	$I_C = 2.0\text{ A}$ , $I_B = 2.0\text{ mA}$		0.9	1.5	V
Base saturation voltage	$V_{BE(sat)}^*$	$I_C = 2.0\text{ A}$ , $I_B = 2.0\text{ mA}$		1.5	2.0	V
Turn-on time	$t_{on}$	$I_C = 2.0\text{ A}$ , $I_{B1} = -I_{B2} = 2.0\text{ mA}$		0.5		$\mu\text{s}$
Storage time	$t_{stg}$	$R_L = 25\ \Omega$ , $V_{CC} \cong 50\text{ V}$ Refer to the test circuit.		2.5		$\mu\text{s}$
Fall time	$t_f$			0.6		$\mu\text{s}$

\* Pulse test  $PW \leq 350\ \mu\text{s}$ , duty cycle  $\leq 2\%$

$h_{FE}$  CLASSIFICATION

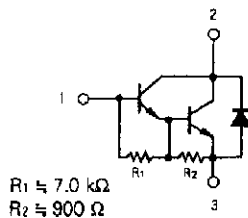
Marking	M	L	K
$h_{FE1}$	2,000 to 5,000	4,000 to 10,000	8,000 to 20,000

PACKAGE DRAWING (UNIT: mm)

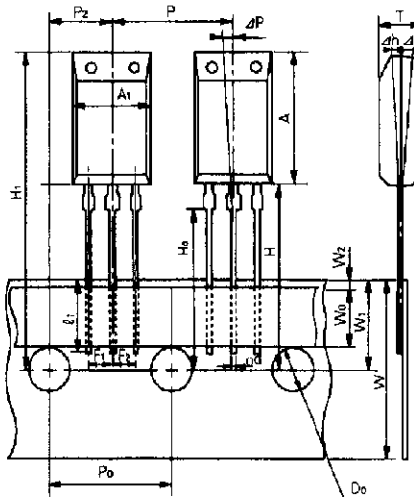


Electrode Connection

- 1. Base
- 2. Collector
- 3. Emitter

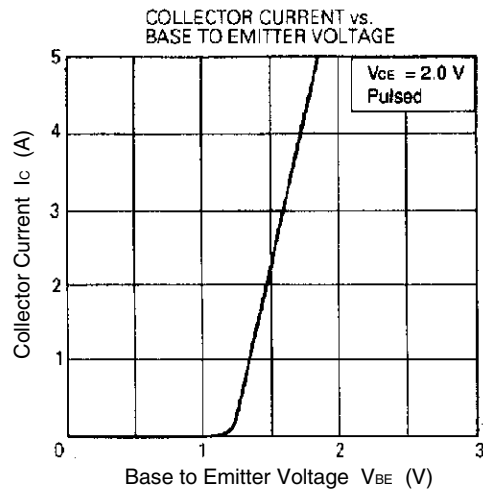
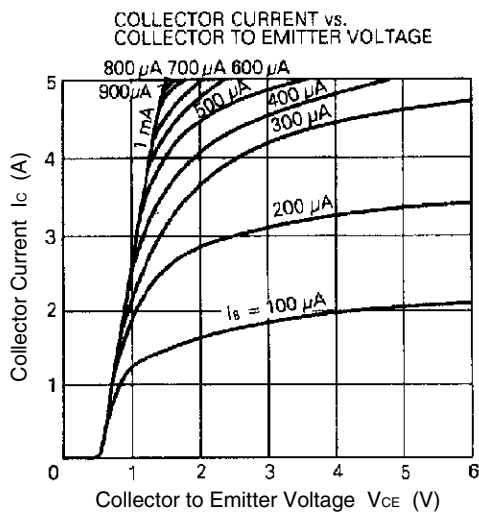
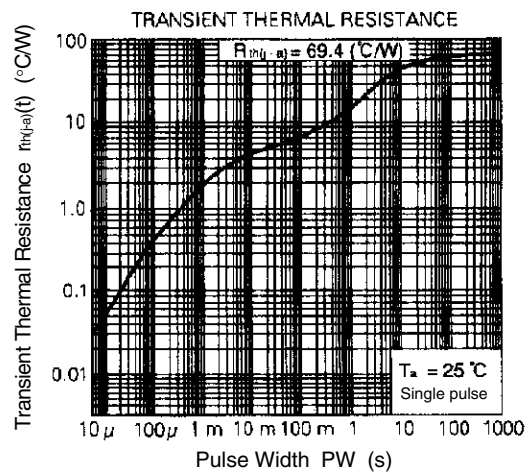
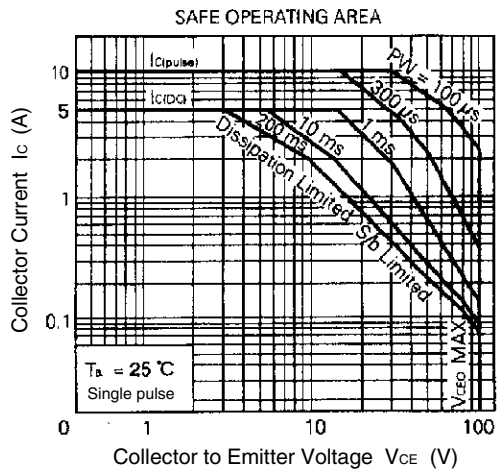
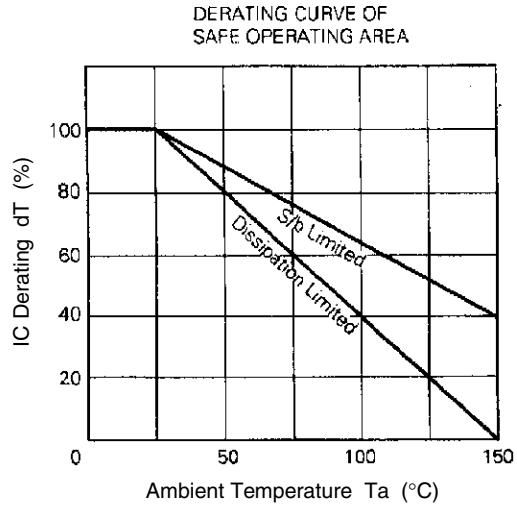
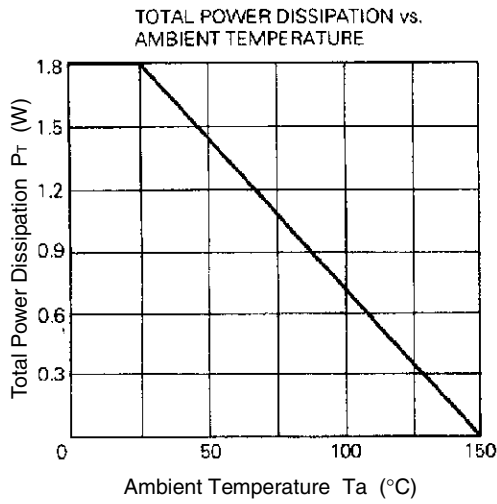


TAPING SPECIFICATION

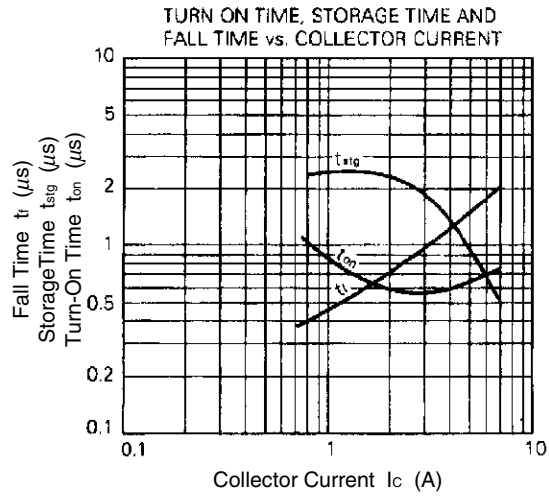
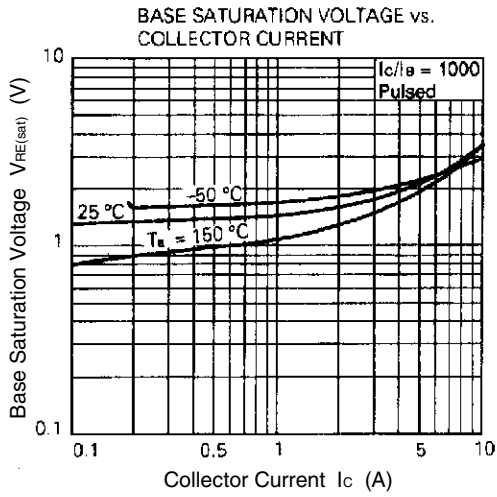
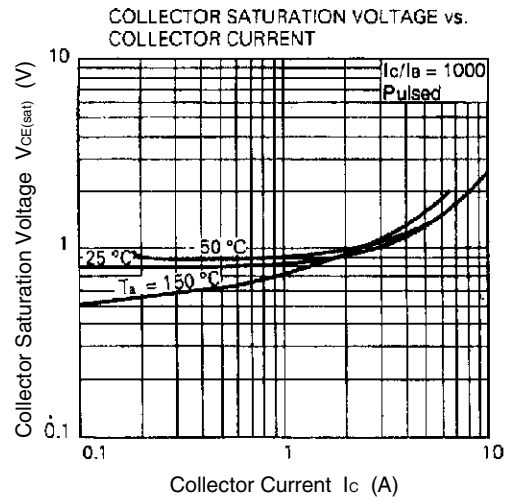
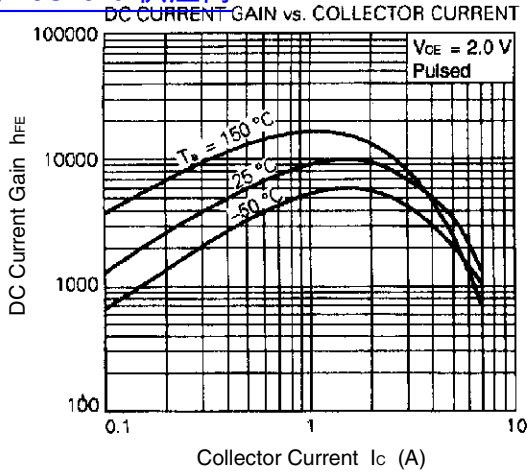


A <sub>1</sub>	8.0 ± 0.2
A	13.0 ± 0.2
D <sub>0</sub>	φ4.0 ± 0.2
d	0.5 ± 0.1
F <sub>1</sub>	2.5 <sup>+0.4</sup> <sub>-0.1</sub>
F <sub>2</sub>	2.5 <sup>+0.4</sup> <sub>-0.1</sub>
H	20.0 MAX.
H <sub>0</sub>	16.0 ± 0.5
H <sub>1</sub>	32.2 MAX.
Δh	0 ± 1.0
l <sub>1</sub>	2.5 MIN.
P	12.7 ± 1.0
P <sub>0</sub>	12.7 ± 0.3
P <sub>2</sub>	6.35 ± 0.5
ΔP	0 ± 1.3
T	4.5 ± 0.2
W	18.0 <sup>+1.0</sup> <sub>-0.5</sub>
W <sub>c</sub>	5.0 MIN.
W <sub>1</sub>	9.0 ± 0.5
W <sub>2</sub>	0.7 MIN.

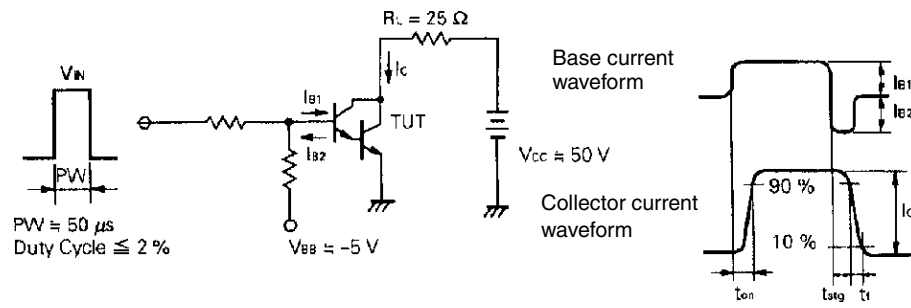
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[查询2SC4810供应信息](#) SWITCHING TIME (ton, tstg, tr) TEST CIRCUIT



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