

NEC

NPN SILICON DARLINGTON POWER TRANSISTORS 2SD985, 2SD986

DESCRIPTION

The 2SD985, 2SD986 are darlington transistors built-in dumper diodes at E-C. They are suitable for use to operate from IC without predriver, such as hammer driver.

FEATURES

- High DC Current Gain.
- Low Collector Saturation Voltage.
- Built-in a dumper diode at E-C.
- Complementary to the NEC 2SB794, 2SB795 PNP Transistors.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature -55 to +150 °C

Junction Temperature +150 °C Maximum

Maximum Power Dissipations

Total Power Dissipation ($T_a = 25\text{ °C}$) 1.0 W

Total Power Dissipation ($T_c = 25\text{ °C}$) 10 W

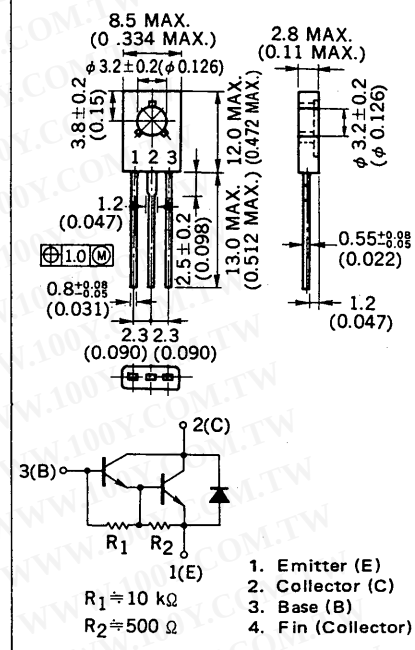
Maximum Voltages and Currents ($T_a = 25\text{ °C}$)

		2SD985	2SD986	
V_{CBO}	Collector to Base Voltage...	150	150	V
V_{CEO}	Collector to Emitter Voltage...	60	80	V
V_{EBO}	Emitter to Base Voltage...	8.0		V
$I_{C(DC)}$	Collector Current...	±1.5		A
$I_{C(pulse)}^*$	Collector Current...	±3.0		A
$I_{B(DC)}$	Base Current...	0.15		A

* $PW \leq 10\text{ ms}$, Duty Cycle $\leq 50\%$

PACKAGE DIMENSIONS

in millimeters (inches)



ELECTRICAL CHARACTERISTICS ($T_a = 25\text{ °C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}^{**}	DC Current Gain	1000			—	$V_{CE} = 2.0\text{ V}$, $I_C = 0.5\text{ A}$
h_{FE2}^{**}	DC Current Gain	2000		30000	—	$V_{CE} = 2.0\text{ V}$, $I_C = 1.0\text{ A}$
t_{on}	Turn On Time		0.5		μs	$I_C = 1.0\text{ A}$, $R_L = 50\text{ }\Omega$
t_{stg}	Storage Time		1.0		μs	$I_{B1} = -I_{B2} = 1.0\text{ mA}$, $V_{CC} = 50\text{ V}$
t_f	Fall Time		1.0		μs	See Test Circuit
I_{CBO}	Collector Cutoff Current			10	μA	$V_{CB} = 60/80\text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			1.0	mA	$V_{EB} = 5.0\text{ V}$, $I_C = 0$
$V_{CE(sat)}^{**}$	Collector Saturation Voltage			1.5	V	$I_C = 1.0\text{ A}$, $I_B = 1.0\text{ mA}$
$V_{BE(sat)}^{**}$	Base Saturation Voltage			2.0	V	$I_C = 1.0\text{ A}$, $I_B = 1.0\text{ mA}$

** Pulsed / $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

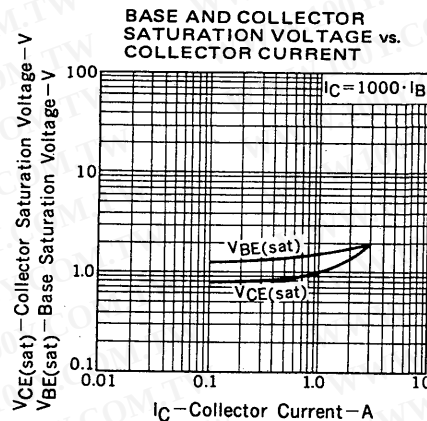
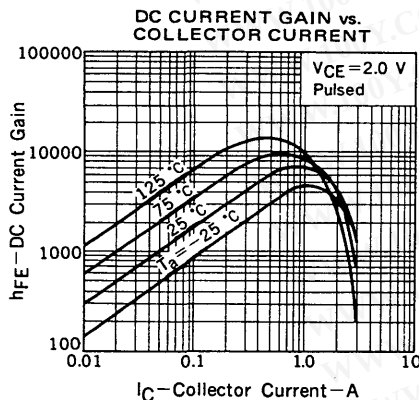
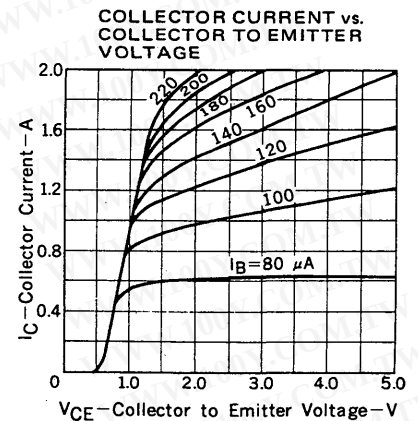
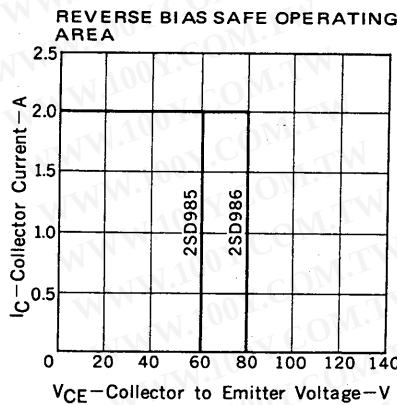
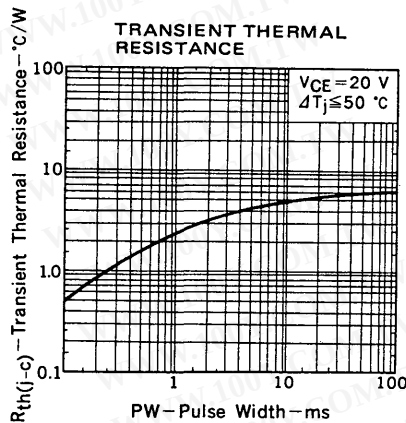
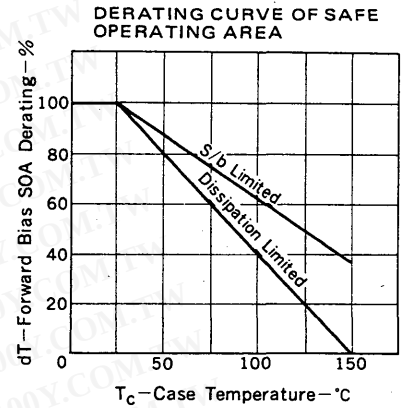
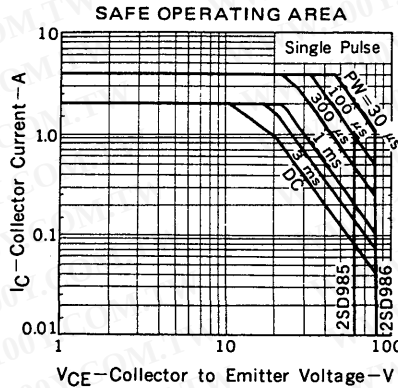
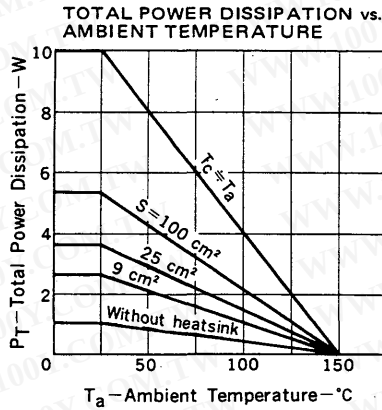
Classification of h_{FE2}

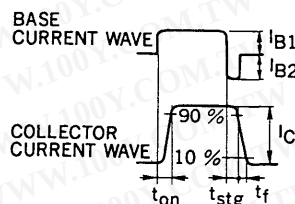
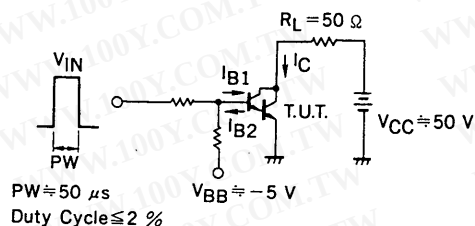
Rank	M	L	K
Range	2000 to 5000	4000 to 10000	8000 to 30000

Test Conditions: $V_{CE} = 2.0\text{ V}$, $I_C = 1.0\text{ A}$

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)



SWITCHING TIME (t_{on} , t_{stg} , t_f) TEST CIRCUIT

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