

NEC

NPN SILICON POWER TRANSISTORS 2SD794, 2SD794A

DESCRIPTION

The 2SD794, 2SD794A is an NPN general purpose transistor designed for use in Audio frequency amplifier.

FEATURES

- High Voltage and Large Current capacity.
- Complementary to NEC 2SB744, 2SB744A PNP transistor.

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 ($T_a = 25\text{ °C}$)

2SD794, 2SD794A

V_{CBO} Collector to Base Voltage . 70 70 V

V_{CEO} Collector to Emitter

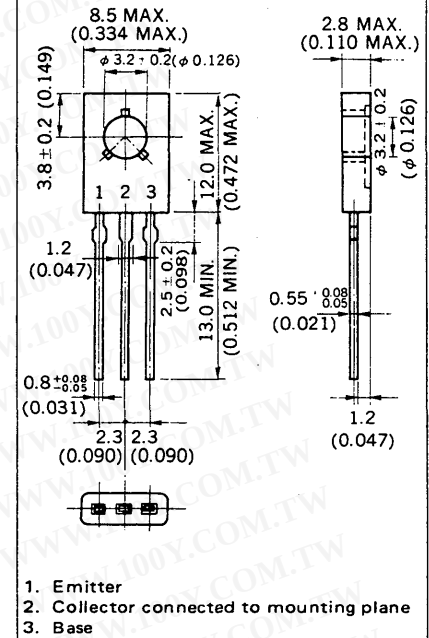
Voltage 45 60 V

V_{EBO} Emitter to Base Voltage . 5.0 5.0 V

$I_{C(DC)}$ Collector Current (DC) . 3.0 3.0 A

$I_{C(pulse)}$ Collector Current (pulse) . 5.0 5.0 A

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	30	70			$V_{CE} = 5.0\text{ V}$, $I_C = 20\text{ mA}^*$
h_{FE2}	DC Current Gain	60	100	320		$V_{CE} = 5.0\text{ V}$, $I_C = 0.5\text{ A}^*$
f_T	Gain Bandwidth Product		60		MHz	$V_{CE} = 5.0\text{ V}$, $I_C = 0.1\text{ A}$
C_{ob}	Output Capacitance		40		pF	$V_{CB} = 10\text{ V}$, $I_E = 0$, $f = 1.0\text{ MHz}$
I_{CBO}	Collector Cutoff Current			1.0	μA	$V_{CB} = 45\text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			1.0	μA	$V_{EB} = 3.0\text{ V}$, $I_C = 0$
$V_{CE(sat)}$	Collector Saturation Voltage		0.3	2.0	V	$I_C = 1.5\text{ A}$, $I_B = 0.15\text{ A}^*$
$V_{BE(sat)}$	Base Saturation Voltage		0.8	2.0	V	$I_C = 1.5\text{ A}$, $I_B = 0.15\text{ A}^*$

*Pulse Test : $PW \leq 350\text{ }\mu\text{s}$, Duty Cycle $\leq 2\%$

Classification of h_{FE2}

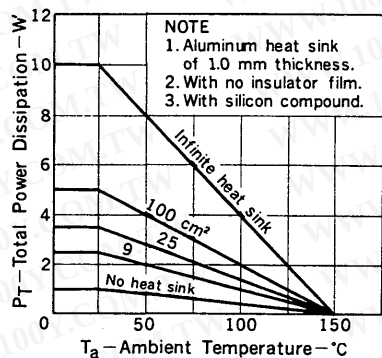
Rank	R	Q	P
Range	60 to 120	100 to 200	160 to 320

Test Conditions : $V_{CE} = 5.0\text{ V}$, $I_C = 0.5\text{ A}$

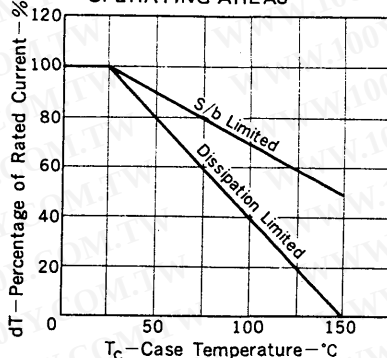
勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

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

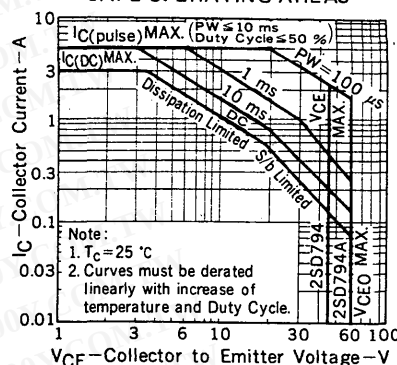
TOTAL POWER DISSIPATION vs. AMBIENT TEMPERATURE



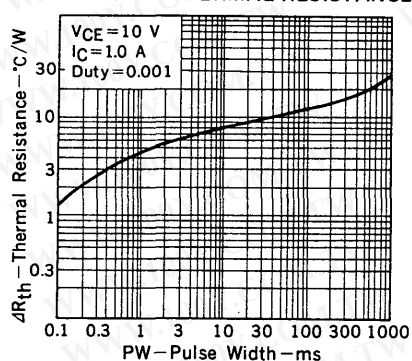
DERATING CURVE OF SAFE OPERATING AREAS



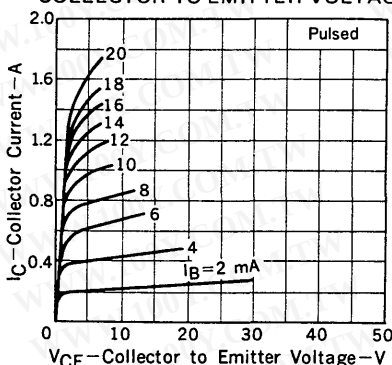
SAFE OPERATING AREAS



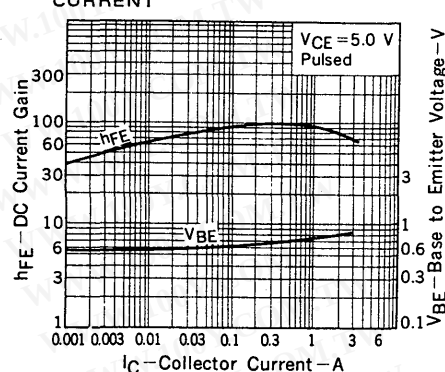
TRANSIENT THERMAL RESISTANCE



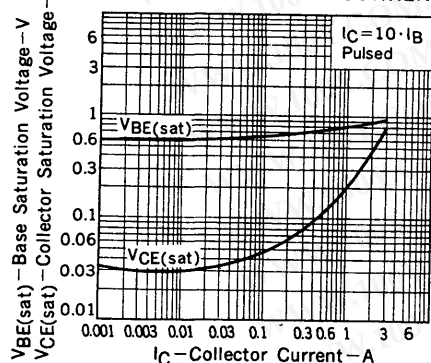
COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE



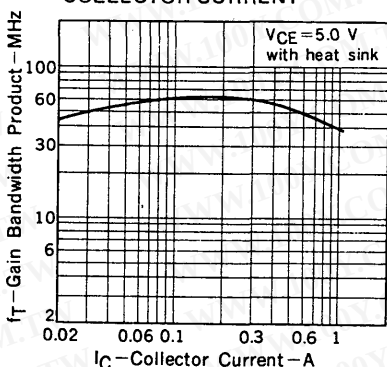
DC CURRENT GAIN AND BASE TO EMITTER VOLTAGE vs. COLLECTOR CURRENT



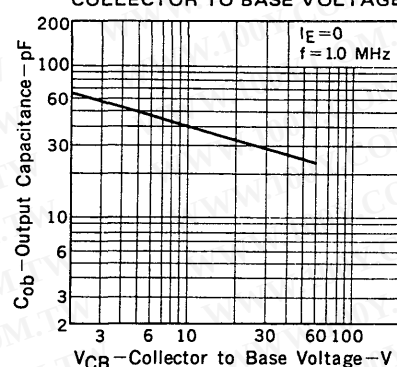
BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE



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)