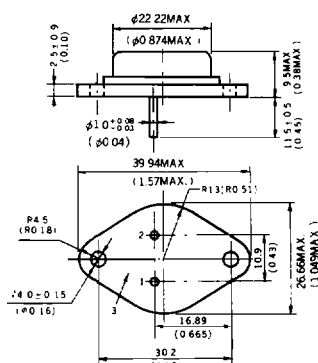


# SILICON POWER TRANSISTORS

## 2SB600/2SD555

**AUDIO FREQUENCY POWER AMPLIFIER**  
**PNP/NPN SILICON TRIPLE DIFFUSED TRANSISTORS**

**PACKAGE DIMENSIONS**  
in millimeters (inches)



1. Base
2. Emitter
3. Collector (Case)

EIAJ : TC-3, TB-3  
JEDEC : TO-204MA(TO-3)  
IEC : C14A, B18

**DESCRIPTION**

The 2SB600/2SD555 are triple diffused high power transistors designed for use in high power audio amplifier applications.

## FEATURES

- Suitable for use in 200 to 300 watts complementary-symmetry audio amplifier.
- High breakdown voltage  $V_{CEO} = 200V$
- High current ratings  $I_C (\text{pulse}) = 15A$
- Wide Safe Operating Area.

### ABSOLUTE MAXIMUM RATINGS

		2SB600	2SD555	
<b>Maximum Voltages and Currents (Ta=25°C)</b>				
Collector to Base Voltage	V <sub>CBO</sub>	-200	250	V
Collector to Emitter Voltage	V <sub>CEO</sub>	-200	200	V
Emitter to Base Voltage	V <sub>EBO</sub>	-5	5	V
Collector Current	I <sub>C(DC)</sub>	-10	10	A
Collector Current	I <sub>C(pulse)*</sub>	-15	15	A
<b>Maximum Power Dissipation</b>				
Total Power Dissipation	P <sub>T</sub> (T <sub>C</sub> =25°C)	200		W
<b>Maximum Temperatures</b>				
Junction Temperature	T <sub>j</sub>	150		°C
Storage Temperature Range	T <sub>stg</sub>	-65 to +150		°C

\* PW  $\leq 10$  ms, duty cycle  $\leq 50\%$

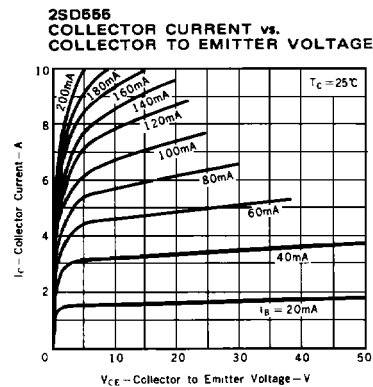
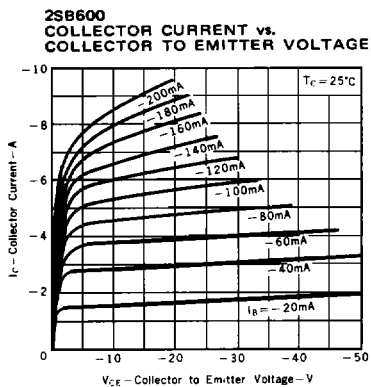
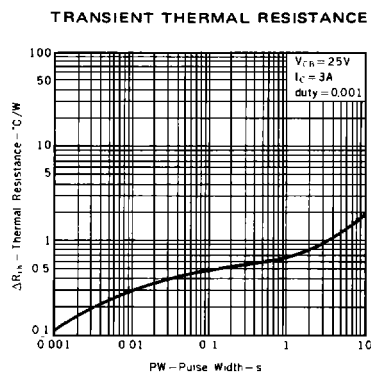
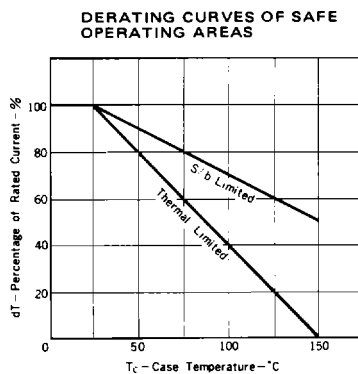
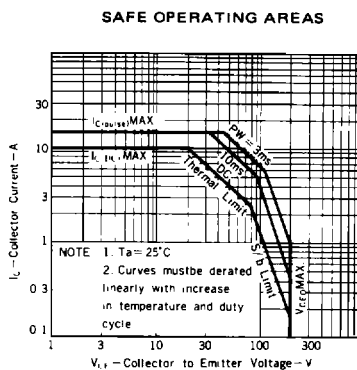
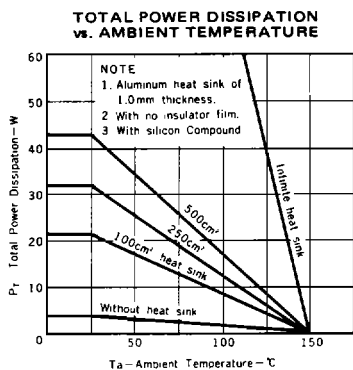
### ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)

## 2SB600/2SD555

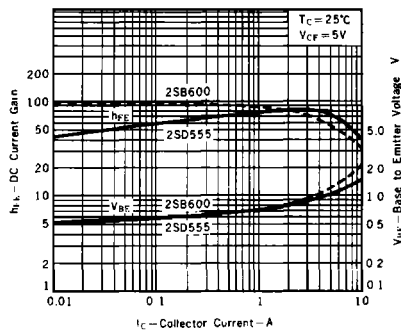
CHARACTERISTIC	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Collector Cutoff Current	$I_{CBO}$			-50/50	$\mu A$	$V_{CB} = -200/200V, I_E = 0$
Emitter Cutoff Current	$I_{EBO}$			-50/50	$\mu A$	$V_{EB} = -3.0/3.0V, I_C = 0$
DC Current Gain	$h_{FE1}$	20/20	100/55			$V_{CE} = -5.0/5.0V, I_C = -50/50mA^*$
	$h_{FE2}$	40/40	70/70	200/200		$V_{CE} = -5.0/5.0V, I_C = -2.0/2.0A^*$
Collector Saturation Voltage	$V_{CE(sat)}$		-1.9/0.9	-3.0/3.0	V	$I_C = -10/10A, I_B = -1.0/1.0A^*$
Base Saturation Voltage	$V_{BE(sat)}$		-2.3/1.6	-3.0/3.0	V	$I_C = -10/10A, I_B = -1.0/1.0A^*$
Gain Bandwidth Product	$f_T$		14/15		MHz	$V_{CE} = -5.0/5.0V, I_C = -0.2/0.2A$
Output Capacitance	$C_{ob}$		450/300		pF	$V_{CB} = -10/10V, I_E = 0, f = 1.0MHz$

\*Pulse Test PW  $\leq 350\mu s$ , duty cycle  $\leq 2\%$

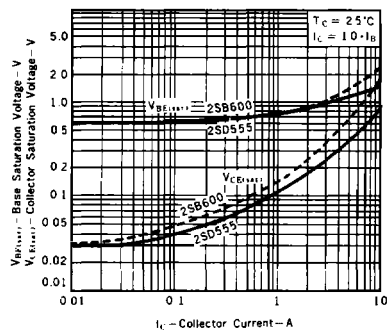
hFE2 Classification / S : 40-80, R : 60-120, Q : 100-200

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

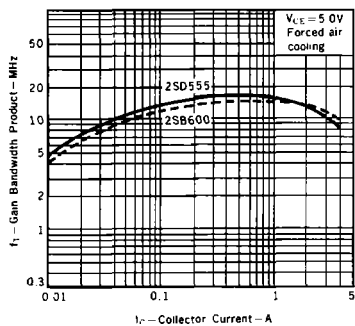
DC CURRENT GAIN AND BASE TO EMITTER VOLTAGE vs. COLLECTOR CURRENT



BASE AND COLLECTOR SATURATION VOLTAGE vs. COLLECTOR CURRENT



GAIN BANDWIDTH PRODUCT vs. COLLECTOR CURRENT



OUTPUT CAPACITANCE vs. COLLECTOR TO BASE VOLTAGE

