

New Jersey Semi-Conductor Products, Inc.

20 STERN AVE.  
SPRINGFIELD, NEW JERSEY 07081  
U.S.A.

TELEPHONE: (973) 376-2922  
(212) 227-6005  
FAX: (973) 376-8960

## 2SD786

Epitaxial Planar NPN Silicon Transistor  
Low  $r_{bb'}$  Low Noise Amp.

### ● Features

- 1) Ultra-low noise. (Good noise response at low  $R_g$ ):  $NF=2.5dB$  (Typ.)  
(at  $f=10Hz$ ,  $R_g=10\Omega$ ,  $V_{CE}=8V$ ,  $I_C=3mA$ )
- 2) Low base resistance:  $r_{bb'}=4\Omega$ ,  
Low voltage noise:  $e_n=0.55nV/\sqrt{Hz}$   
(at 10Hz, 10mA)
- 3) Complementary pair with 2SB737.

### Absolute Maximum Ratings ( $T_a=25^\circ C$ )

Symbol	Limits	Unit
$V_{CBO}$	50	V
$V_{CEO}$	40	V
$V_{EBO}$	5	V
$I_C$	300	mA
$P_C$	250	mW
$T_J$	125	$^\circ C$
$T_{stg}$	-55~125	$^\circ C$

### Electrical Characteristics ( $T_a=25^\circ C$ )

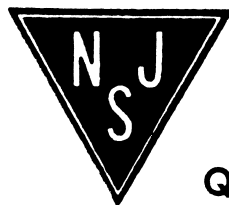
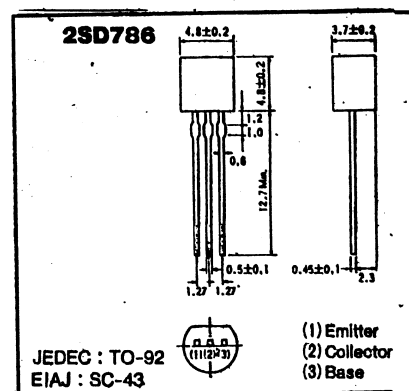
Symbol	Min.	Typ.	Max.	Unit	Conditions
$BV_{CEO}$	40	—	—	V	$I_C=1mA$
$BV_{CBO}$	50	—	—	V	$I_C=50\mu A$
$BV_{EBO}$	5	—	—	V	$I_E=50\mu A$
$I_{CBO}$	—	—	0.5	$\mu A$	$V_{CB}=30V$
$I_{EBO}$	—	—	0.5	$\mu A$	$V_{EB}=4V$
$h_{FE}$	120	—	580	—	$V_{CE}/I_C=8V/10mA$
$V_{CE(sat)}$	—	0.03	0.5	V	$I_C/I_B=50mA/5mA$
$f_T$	—	100	—	MHz	$V_{CE}=6V$ , $I_E=-10mA$
$r_{bb'}$	—	4	8	$\Omega$	$V_{CE}=8V$ , $I_C=1mA$ , $f=1MHz$
$NV_1$	—	—	150	mV	FLAT AMP ( $G_v=80dB$ ) $V_{CE}=10V$ , $I_C=1mA$ $R_g=100k\Omega$

$h_{FE}$

Item	Q	R	S
$h_{FE}$	120~270	180~390	270~580

Epitaxial Planar NPN Silicon Transistor

Dimensions (Unit: mm)



Quality Semi-Conductors