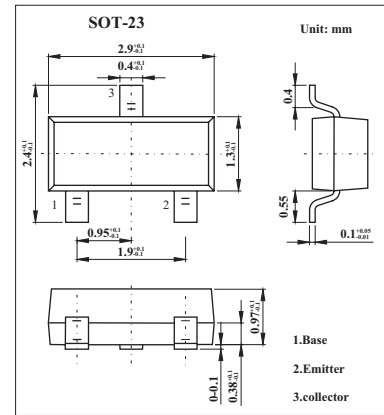


## NPN Silicon Epitaxia

## 2SD780A

## ■ Features

- Micro package.
- High DC current gain.  $h_{FE}$ : 200TYP. ( $V_{CE}=1.0V, I_C=50mA$ ).

■ Absolute Maximum Ratings  $T_a = 25^\circ C$ 

Parameter	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	80	V
Collector-emitter voltage	$V_{CEO}$	80	V
Emitter-base voltage	$V_{EBO}$	5.0	V
Collector current	$I_C$	300	A
Total power dissipation at $25^\circ C$ ambient temperature	$P_T$	200	W
Junction temperature	$T_j$	150	$^\circ C$
Storage temperature	$T_{stg}$	-55 to +150	$^\circ C$

■ Electrical Characteristics  $T_a = 25^\circ C$ 

Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Collector cutoff current	$I_{CBO}$	$V_{CB} = 50 V, I_E = 0$			100	nA
Emitter cutoff current	$I_{EBO}$	$V_{EB} = 5.0 V, I_C = 0$			100	nA
DC current gain *	$h_{FE}$	$V_{CE} = 1.0 V, I_C = 50 mA$	110	200	400	
Base to emitter voltage *	$V_{BE}$	$V_{CE} = 6.0 V, I_C = 10 mA$	600	645	700	mV
Collector saturation voltage *	$V_{CE(sat)}$	$I_C = 300 mA, I_B = 30 mA$		0.15	0.6	V
Output capacitance	$C_{ob}$	$V_{CB} = 6.0 V, I_E = 0, f = 1.0 MHz$		7.0		pF
Gain bandwidth product	$f_T$	$V_{CE} = 6.0 V, I_E = -10 mA$		140		MHz

\* Pulsed:  $PW \leq 350 \mu s$ , duty cycle  $\leq 2\%$

■  $h_{FE}$  Classification

Marking	D51	D52	D53	D54	D55
$h_{FE}$	110~180	135~220	170~270	200~320	250~400