

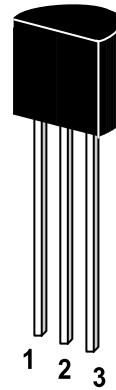
# ST 2SD1616 / 2SD1616A

## NPN Silicon Transistor

The 2SD1616 / 2SD1616A are designed for use in driver and output stages of AF amplifier general purpose application.

The transistor is subdivided into three groups R, O and Y, according to its DC current gain

On special request, these transistors can be manufactured in different pin configurations.

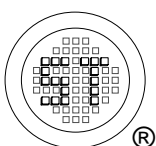


1. Emitter 2. Collector 3. Base

TO-92 Plastic Package  
Weight approx. 0.19g

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

		Symbol	Value	Unit
Collector Base Voltage	2SD1616	$V_{CBO}$	60	V
	2SD1616A		120	
Collector Emitter Voltage	2SD1616	$V_{CEO}$	50	V
	2SD1616A		60	
Emitter Base Voltage		$V_{EBO}$	6	V
Collector Current (DC)		$I_C$	1	A
Collector Current (pulse) <sup>1)</sup>		$I_C$	2	A
Power Dissipation		$P_{tot}$	0.75	W
Junction Temperature		$T_j$	150	$^\circ\text{C}$
Storage Temperature Range		$T_s$	-55 to +150	$^\circ\text{C}$
1) $PW \leq 10\text{ms}$ , Duty Cycle $\leq 50\%$				



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)

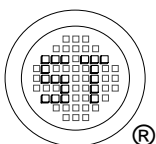


Dated : 07/12/2002

# ST 2SD1616 / 2SD1616A

## Characteristics at $T_{amb}=25^{\circ}C$

	Symbol	Min.	Typ.	Max.	Unit	
DC Current Gain <sup>2)</sup> at $V_{CE}=2V, I_C=100mA$	R	$h_{FE}$	135	-	270	-
	O	$h_{FE}$	200	-	400	-
	Y	$h_{FE}$	300	-	600	-
		$h_{FE}$	81	-	-	-
Base Emitter Voltage <sup>2)</sup> at $V_{CE}=2V, I_C=50mA$	$V_{BE}$	600		700	mV	
Collector Cutoff Current at $V_{CB}=60V/120V$	$I_{CBO}$	-	-	100	nA	
Emitter Cutoff Current at $V_{EB}=6V$	$I_{EBO}$	-	-	100	nA	
Collector Saturation Voltage <sup>2)</sup> at $I_C=1A, I_B=50mA$	$V_{CE(sat)}$	-	0.15	0.3	V	
Base Saturation Voltage <sup>2)</sup> at $I_C=1A, I_B=50mA$	$V_{BE(sat)}$	-	0.9	1.2	V	
Gain Bandwidth Product at $V_{CE}=2V, I_C=-100mA$	$f_T$	100	160	-	MHz	
Output Capacitance at $V_{CB}=10V, f=1MHz$	$C_{OB}$	-	19	-	pF	
Turn-on Time	at $V_{CC}=10V, I_C=-100mA$ $I_{B1}=-I_{B2}=10mA$ $V_{BE(off)}=-2$ to $3V$	$t_{on}$	-	0.07	-	$\mu s$
Storage Time		$t_{stg}$	-	0.95	-	$\mu s$
Fall Time		$t_f$	-	0.07	-	$\mu s$
2) Pulsed PW $\leq 350\mu s$ , Duty Cycle $\leq 2\%$						



**SEMTECH ELECTRONICS LTD.**

(Subsidiary of Sino-Tech International Holdings Limited, a company listed on the Hong Kong Stock Exchange, Stock Code: 724)



ISO/TS 16949 : 2002  
Certificate No. 05103



ISO 14001:2004  
Certificate No. 7116



ISO 9001:2000  
Certificate No. 0506098

Dated : 07/12/2002