



# DATA SHEET

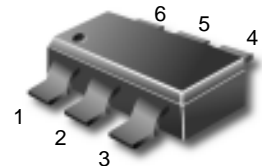
SEMICONDUCTOR

4501DW

## Silicon NPN Epitaxial Planer Transistor

### Feature

Pb-Free Package is available.



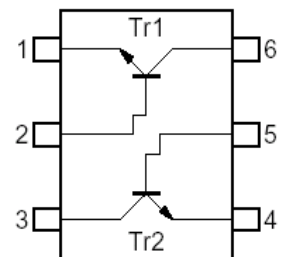
SC-88/SOT-363

### MAXIMUM RATINGS

Parameter	Symbol	Ratings	Unit
Collector-Emitter Voltage	$V_{CEO}$	50	V
Collector-Base Voltage	$V_{CBO}$	60	V
Emitter-Base Voltage	$V_{EBO}$	7	V
Collector current-continuoun	$I_C$	150	mAdc

### THERMAL CHARATEERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (1) $T_A=25^{\circ}C$	$P_D$	380	mW
Thermal Resistance, Junction to Ambient	$R_{\theta_{JA}}$	328	$^{\circ}C/W$
Junction and Storage Temperature	$T_j, T_{stg}$	-55 to +150	$^{\circ}C$



### DEVICE MARKING

4501DW=5H

### ELECTRICAL CHARACTERISTICS ( $T_A=25^{\circ}C$ unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
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### OFF CHARACTERISTICS

Collector-Emitter Breakdown Voltage ( $I_C=1mA$ )	$V_{(BR)CEO}$	50	-	-	V
Emitter-Base Breakdown Voltage ( $I_E=50 \mu A$ )	$V_{(BR)EBO}$	7	-	-	V
Collector-Base Breakdown Voltage ( $I_C=50 \mu A$ )	$V_{(BR)CBO}$	60	-	-	V
Collector Cutoff Current ( $V_{CB}=60V$ )	$I_{CBO}$	-	-	0.1	$\mu A$

## 4501DW

EMITTER CUTOFF CURRENT VEB=7V	IEBO	-	-	0.1	$\mu$ A
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### ON CHARACTERISTICS

DC Current Gain (IC=1mA, VCE=6.0V)	Hfe	120	-	560	
Collector-Emitter Saturation Voltage (IC=50mA, IB=5mA)	VCE(SAT)	-	-	0.4	V

### SMALL-SIGNAL CHARACTERISTICS

Current-Gain-Bandwidth Product (VCE = 12.0V; IE = -2.0 mA, f=100MHZ)	Ft	-	180	-	MHz
Output Capacitance(VCE=12V, f=1.0MHz)	Cobo	-	2	3.5	Pf

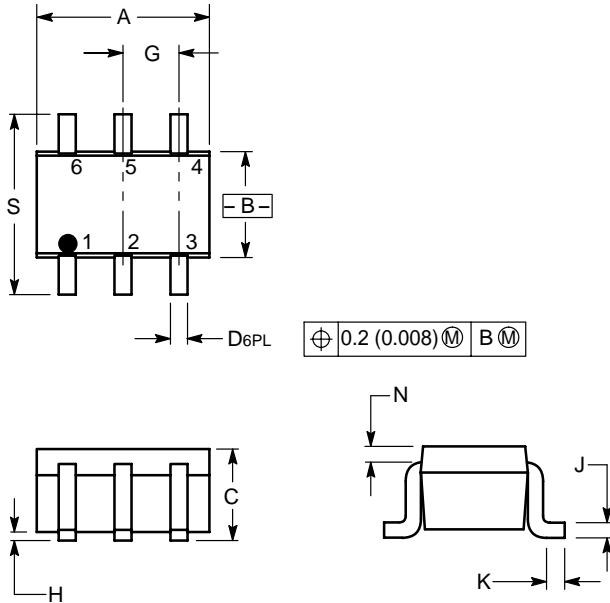
### ORDERING INFORMATION

Device	Marking	Shipping
4501DW	5H	3000/Tape&Reel
4501DW	5H	10000/Tape&Reel

# PACKAGE OUTLINE & DIMENSIONS

## 4501DW

SC-88/SOT-363



### NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

- PIN 1. EMITTER 1  
 2. BASE 1  
 3. COLLECTOR 2  
 4. EMITTER 2  
 5. BASE 2  
 6. COLLECTOR 1

