

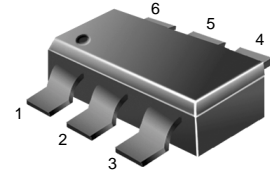


DATA SHEET

SEMICONDUCTOR

4601DQ

Silicon NPN Epitaxial Planer Transistor(Tr1) Silicon PNP Epitaxial Planer Transistor(Tr2)



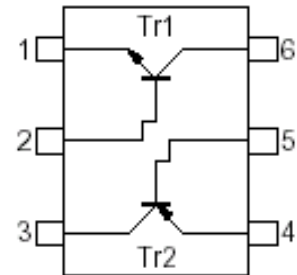
SC-88/SOT-363

Pb-Free package is available

● Tr1

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}	6	V
Collector current-continuoun	I_C	150	mAdc



● Tr2

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}	-6	V
Collector current-continuoun	I_C	-150	mAdc

THERMAL CHARATEERISTICS

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

DEVICE MARKING

4601DQ =50

	Q	R	S
hFE	120-270	180-390	270-56

DEVICE CHARACTERISTICS

4601DQ

● Tr1

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (IC=1mA)	V(BR)CEO	50	-	-	V
Emitter-Base Breakdown Voltage (IE=50 μA)	V(BR)EBO	6	-	-	V
Collector-Base Breakdown Voltage (IC=50 μA)	V(BR)CBO	60	-	-	V
Collector Cutoff Current (VCB=60V)	ICBO	-	-	0.1	μA
EMITTER CUTOFF CURRENT VEB=7V	IEBO	-	-	0.1	μA

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

● Tr2

ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Collector-Emitter Breakdown Voltage (IC=-1mA)	V(BR)CEO	-50	-	-	V
Emitter-Base Breakdown Voltage (IE=-50 μA)	V(BR)EBO	-6	-	-	V
Collector-Base Breakdown Voltage (IC=-50 μA)	V(BR)CBO	-60	-	-	V
Collector Cutoff Current (VCB=-60V)	ICBO	-	-	-0.1	μA
Emitter Cutoff Current (VBE=-6V)	IEBO	-	-	-0.1	μA

ON CHARACTERISTICS

DC Current Gain (IC=-1mA, VCE=-6.0V)	Hfe	120	-	560	
Collector-Emitter Saturation Voltage (IC=-50mA, IB=-5mA)	VCE(SAT)	-	-	-0.5	V

SMALL-SIGNAL CHARACTERISTICS

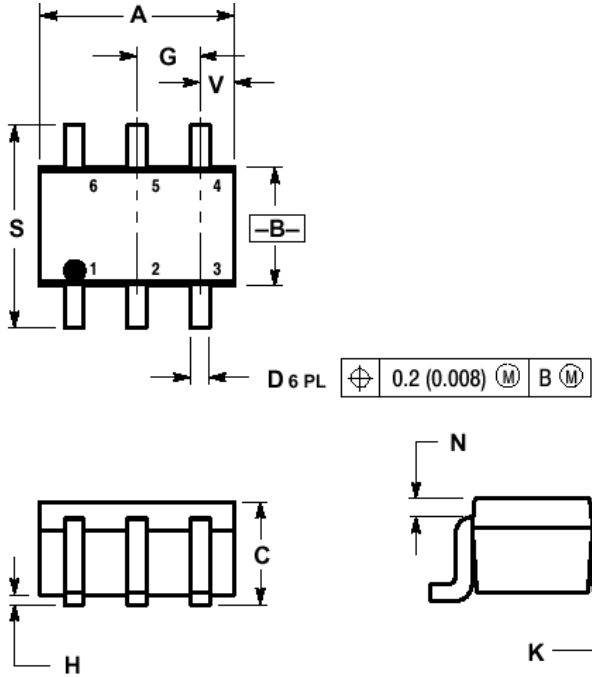
Current-Gain-Bandwidth Product (VCE = -12.0V; IE = 2.0 mA, f=300MHZ)	Ft	-	140	-	MHz
Output Capacitance(VCB=-12V, f=1.0MHz)	Cobo	-	4	5	Pf

PACKAGE OUTLINE & DIMENSIONS

4601DQ

PACKAGE DIMENSIONS

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	0.026BSC		0.65BSC	
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
V	0.012	0.016	0.30	0.40