2DC4617Q/R/S

NPN SMALL SIGNAL SURFACE MOUNT TRANSISTOR

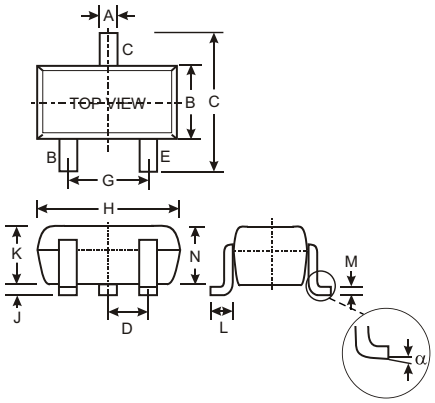
NEW PRODUCT

Features

- Ultra Miniature Surface Mount Package
- Complementary PNP Type Available (2DA1774Q,R,S)
- Also Available in Lead Free Version

Mechanical Data

- Case: SOT-523, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish). Please see Ordering Information, Note 4, on Page 2
- Terminal Connections: See diagram
- Marking (See Page 2): 2DC4617Q: 8D
  2DC4617R: 8E
  2DC4617S: 8F
- Ordering & Date Code Information: See Page 2
- Weight: 0.002 grams (approx.)



SOT-523			
Dim	**Min**	**Max**	**Typ**
A	0.15	0.30	0.22
B	0.75	0.85	0.80
C	1.45	1.75	1.60
D	—	—	0.50
G	0.90	1.10	1.00
H	1.50	1.70	1.60
J	0.00	0.10	0.05
K	0.60	0.80	0.75
L	0.10	0.30	0.22
M	0.10	0.20	0.12
N	0.45	0.65	0.50
α	0°	8°	—
All Dimensions in mm			

Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	2DC4617Q/R/S	Unit
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	7.0	V
Collector Current - Continuous (Note 1)	I_C	150	mA
Power Dissipation (Note 1)	P_d	150	mW
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	833	°C/W
Operating and Storage and Temperature Range	T_j, T_{STG}	-55 to +150	°C

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Characteristic		Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)						
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	60	—	V	I_C = 50μA, I_E = 0
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	50	—	V	I_C = 1.0mA, I_B = 0
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	7.0	—	V	I_E = 50μA, I_C = 0
Collector Cutoff Current		I_{CBO}	—	100	nA	V_{CB} = 60V
Emitter Cutoff Current		I_{EBO}	—	100	nA	V_{EB} = 7.0V
ON CHARACTERISTICS (Note 2)						
DC Current Gain	2DC4617Q 2DC4617R 2DC4617S	h_{FE}	120 180 270	270 390 560	—	V_{CE} = 6.0V, I_C = 1.0mA
Collector-Emitter Saturation Voltage		$V_{CE(SAT)}$	—	0.4	V	I_C = 50mA, I_B = 5.0mA
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance		C_{obo}	2.0 Typ.	3.5	pF	V_{CB} = 12V, f = 1.0MHz, I_E = 0
Current Gain-Bandwidth Product		f_T	180 Typ.	—	MHz	V_{CE} = 12V, I_E = -2mA, f = 1MHz

Notes: 1. Part mounted on FR-4 board with recommended pad layout, which can be found on our website at http://www.diodes.com/datasheets/ap02001.pdf.
2. Short duration pulse test used to minimize self-heating effect.

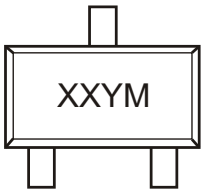
NEW PRODUCT

Ordering Information (Note 3)

Device	Packaging	Shipping
2DC4617Q-7	SOT-523	3000/Tape & Reel
2DC4617R-7	SOT-523	3000/Tape & Reel
2DC4617S-7	SOT-523	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.
4. For Lead Free version (with Lead Free terminal finish) part number, please add "-F" suffix to part number above. Example: 2DC4617S-7-F.

Marking Information



XX = Product Type Marking Code (See Page 1, e.g. 8D = 2DC4617Q)
YM = Date Code Marking
Y = Year (ex: N = 2002)
M = Month (ex: 9 = September)

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	P	R

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

littlediode
COMPONENTS FOR ALL

Littlediode supplies new, hard to find or obsolete electronic components and semiconductors all over the world.

With over two million different components listed you are sure to find the part you need.

Feel free to visit us today at our online store:

LittleDiode.com

Looking forward to providing you with the best possible service.