



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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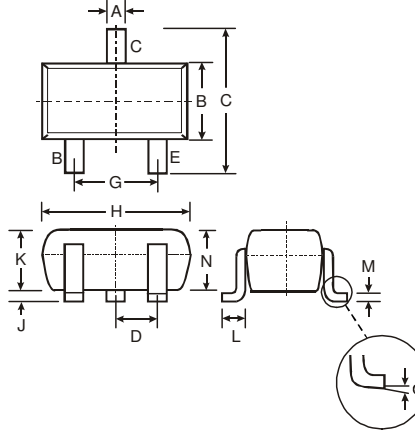


Features

- Ultra Miniature Surface Mount Package
- Complementary PNP Type Available (2DA1774Q,R,S)
- **Lead Free/RoHS Compliant (Note 3)**
- "Green" Device (Note 4 and 5)

Mechanical Data

- Case: SOT-523
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminal Connections: See diagram
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin annealed over Alloy 42 leadframe).
- Marking Information: (See Page 3): 2DC4617Q: 8D
2DC4617R: 8E
2DC4617S: 8F
- Ordering Information: See Page 3
- Weight: 0.002 grams (approximate)



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	Value	Unit
Collector-Base Voltage	V _{CB0}	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

Thermal Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1)	P _d	150	mW
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	833	°C/W
Operating and Storage Temperature Range	T _j , T _{STG}	-55 to +150	°C

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	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	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	3.5	pF	V _{CB} = 12V, f = 1.0MHz, I _E = 0
Current Gain-Bandwidth Product	f _T	—	180	—	MHz	V _{CE} = 12V, I _E = -2mA, f = 1MHz
Current Gain-Bandwidth Product	f _T	180 Typ.	—	—	MHz	V _{CE} = 12V, I _E = 0A, f = 1MHz
Current Gain-Bandwidth Product	f _T	180 Typ.	—	—	MHz	V _{CE} = 12V, I _C = -2.0mA, f = 100MHz

- 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.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.

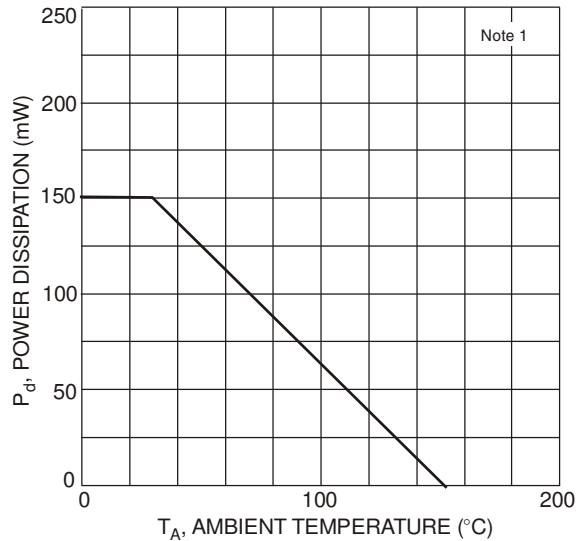


Fig. 1 Power Derating Curve

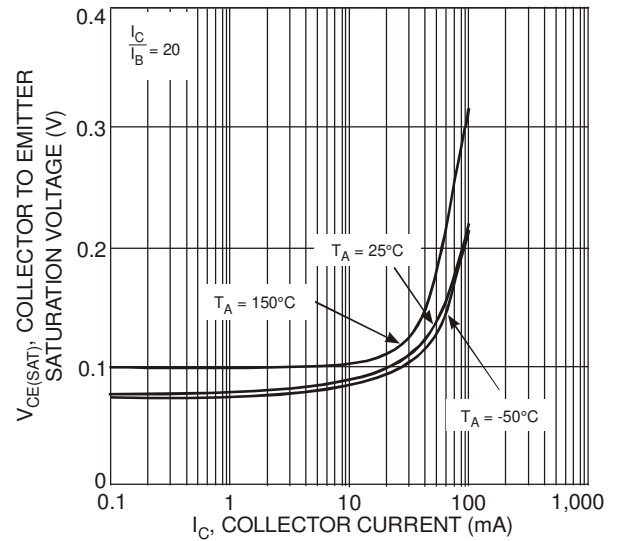


Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

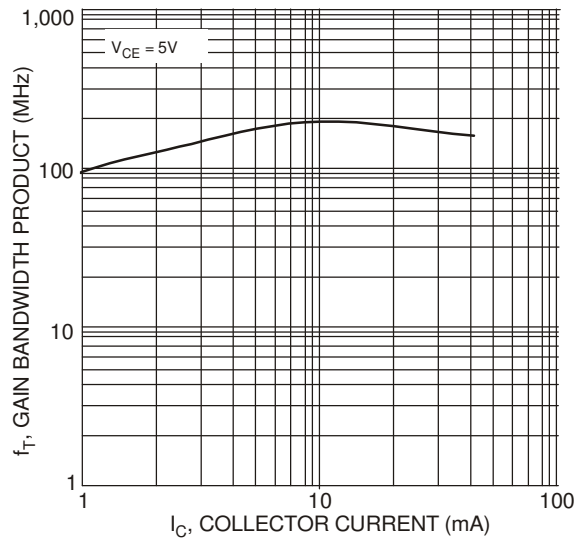


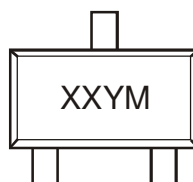
Fig. 3 Gain Bandwidth Product vs. Collector Current

Ordering Information (Note 6)

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

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

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	2005	2006	2007	2008	2009	2010	2011	2012
Code	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z

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

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