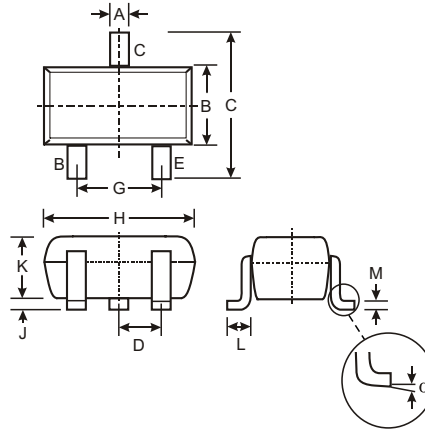


Features

- Ultra Miniature Surface Mount Package
- Complementary NPN Type Available (2DC4617Q,R,S)
- Available in Lead Free/RoHS Compliant Version (Note 3)

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
- Also Available in Lead Free Plating (Matte Tin annealed over Alloy 42 leadframe). Please See Ordering Information, Note 5, on Page 3
- Marking & Type Code Information (See Last Page):
 - 2DA1774Q: 8A
 - 2DA1774R: 8B
 - 2DA1774S: 8C
- Ordering Information: See Last Page
- 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	2DA1774Q/R/S	Unit
Collector-Base Voltage	V _{CB0}	-60	V
Collector-Emitter Voltage	V _{CEO}	-50	V
Emitter-Base Voltage	V _{EBO}	-6.0	V
Collector Current - Continuous (Note 1)	I _C	150	mA
Power Dissipation (Note 1)	P _d	150	mW

Thermal Characteristics @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	2DA1774Q/R/S	Unit
Thermal Resistance, Junction to Ambient (Note 1)	R _{θJA}	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 = 1.0μA, I _B = 0
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	-6.0	—	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} = -6.0V
ON CHARACTERISTICS (Note 2)					
DC Current Gain	2DA1774Q 2DA1774R 2DA1774S h _{FE}	120 180 270	270 390 560	—	V _{CE} = -6.0V, I _C = -1.0mA
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	-0.5	V	I _C = -50mA, I _B = -5.0mA
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C _{obo}	4.0 Typ.	5.0	pF	V _{CB} = -12V, f = 1.0MHz, I _E = 0
Current Gain-Bandwidth Product	f _T	140 Typ.	—	MHz	V _{CE} = -12V, I _C = -2.0mA, f = 30MHz

- 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.

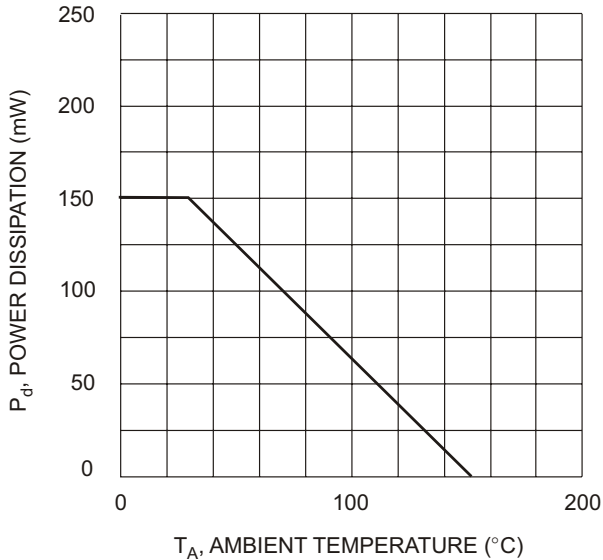


Fig. 1 Power Derating Curve, Total Package

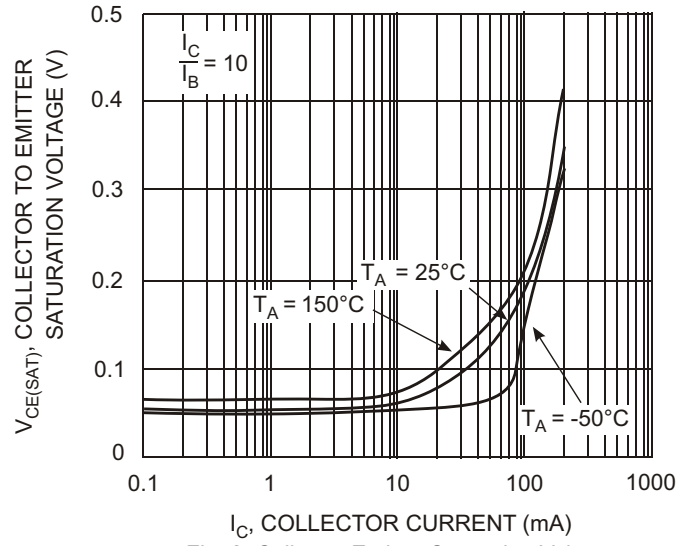


Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

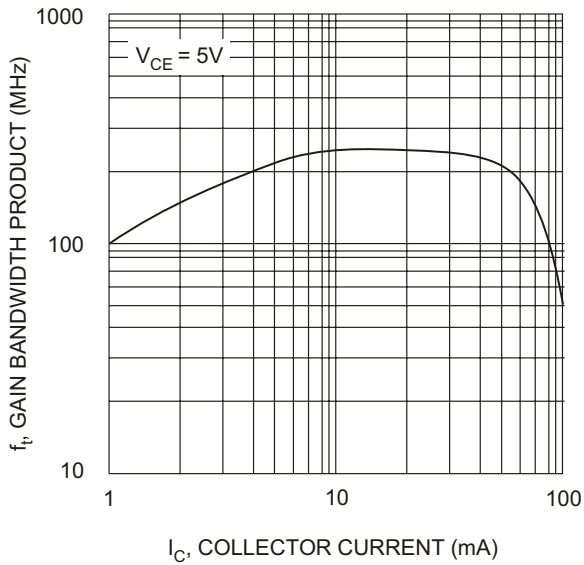


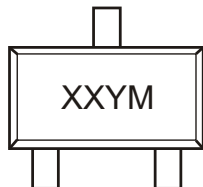
Fig. 3, Gain Bandwidth Product vs Collector Current

Ordering Information (Note 4)

Device	Packaging	Shipping
2DA1774Q-7	SOT-523	3000/Tape & Reel
2DA1774R-7	SOT-523	3000/Tape & Reel
2DA1774S-7	SOT-523	3000/Tape & Reel

- Notes:
- For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
 - For Lead Free/RoHS Compliant version part number, please add "-F" suffix to the part number above.
Example: 2DA1774S-7-F.

Marking Information



XX = Product Type Marking Code (See Page 1, e.g. 8A = 2DA1774Q)
 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