



2DA1774Q/R/S

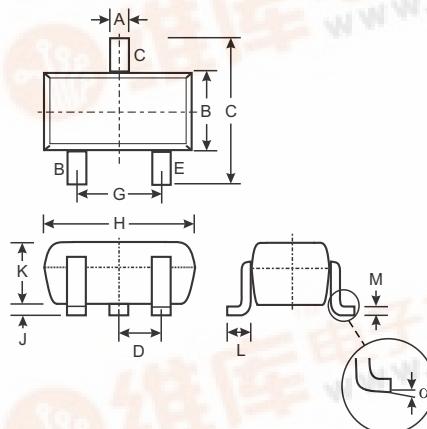
PNP SMALL SIGNAL SURFACE MOUNT TRANSISTOR

Features

- Ultra Miniature Surface Mount Package
- Complementary NPN Type Available (2DC4617Q,R,S)
- Lead Free/RoHS Compliant (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
- Lead Free Plating (Matte Tin annealed over Alloy 42 leadframe).
- 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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	2DA1774Q/R/S	Unit
Collector-Base Voltage	V_{CBO}	-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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	2DA1774Q/R/S	Unit
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 @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
OFF CHARACTERISTICS (Note 2)					
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60	—	V	$I_C = -50\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-50	—	V	$I_C = 1.0\mu\text{A}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-6.0	—	V	$I_E = -50\mu\text{A}, I_C = 0$
Collector Cutoff Current	I_{CBO}	—	-100	nA	$V_{CB} = -60\text{V}$
Emitter Cutoff Current	I_{EBO}	—	-100	nA	$V_{EB} = -6.0\text{V}$
ON CHARACTERISTICS (Note 2)					
DC Current Gain	h_{FE}	120 180 270	270 390 560	—	$V_{CE} = -6.0\text{V}, I_C = -1.0\text{mA}$
Collector-Emitter Saturation Voltage	$V_{CE(\text{SAT})}$	—	-0.5	V	$I_C = -50\text{mA}, I_B = -5.0\text{mA}$
SMALL SIGNAL CHARACTERISTICS					
Output Capacitance	C_{obo}	4.0 Typ.	5.0	pF	$V_{CB} = -12\text{V}, f = 1.0\text{MHz}, I_E = 0$
Current Gain-Bandwidth Product	f_T	140 Typ.	—	MHz	$V_{CE} = -12\text{V}, I_C = -2.0\text{mA}, f = 30\text{MHz}$

Notes:

- 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>.
- Short duration pulse test used to minimize self-heating effect.
- No purposefully added lead.

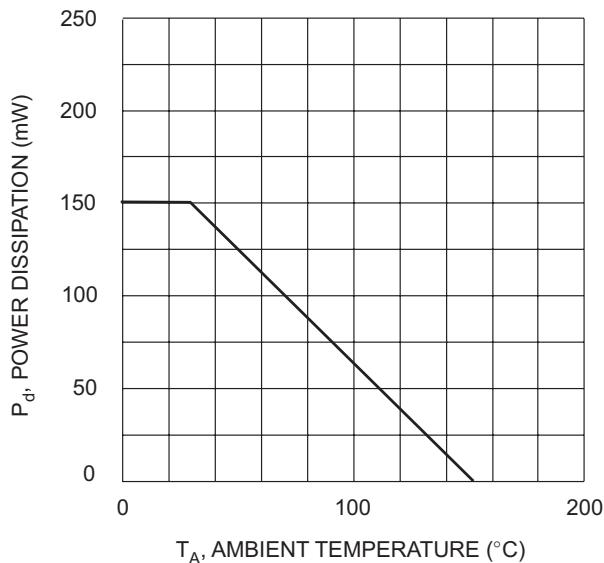


Fig. 1 Power Derating Curve, Total Package

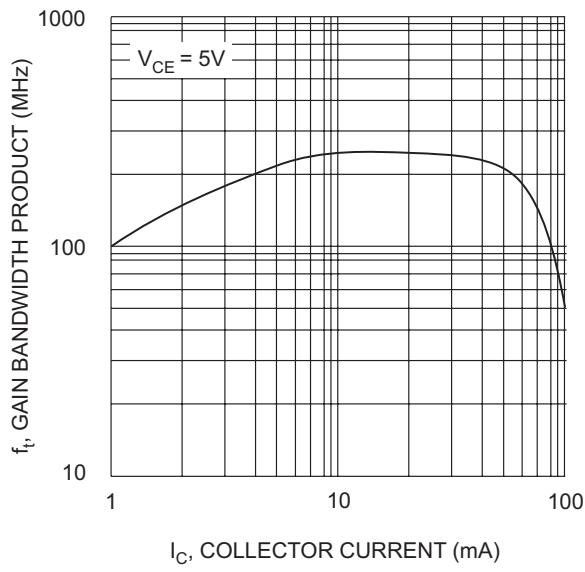


Fig. 3, Gain Bandwidth Product vs Collector Current

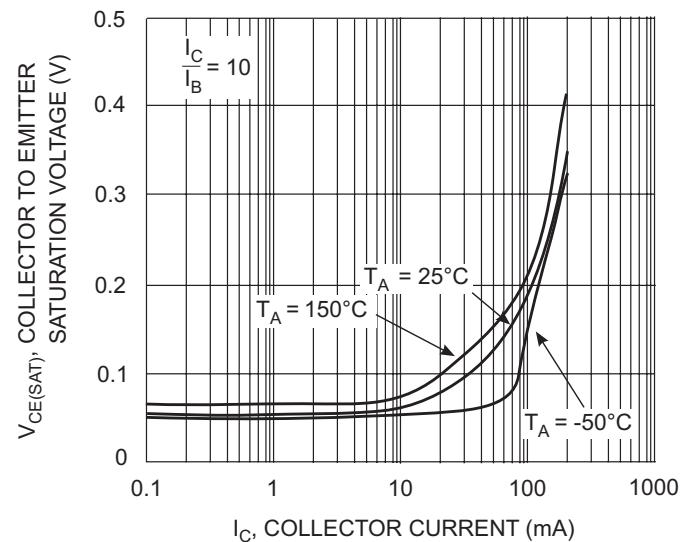


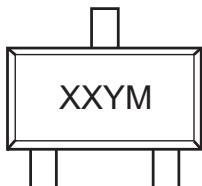
Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

Ordering Information (Note 4)

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

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



Date Code Key

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)

Year	2002	2003	2004	2005	2006	2007	2008	2009				
Code	N	P	R	S	T	U	V	W				
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

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