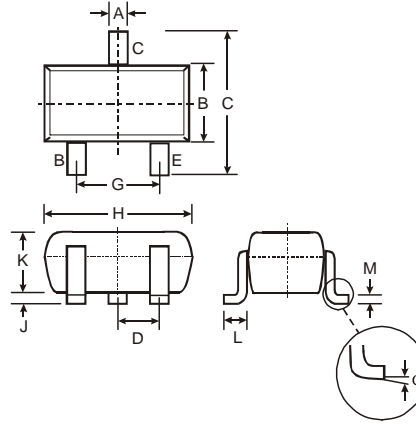


Features

- Epitaxial Planar Die Construction
- Complementary NPN Type Available (2DC4617Q,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
- Lead Free Plating (Matte Tin annealed over Alloy 42 leadframe).
- Marking Information (See Page 3):
2DA1774Q: 8A
2DA1774R: 8B
2DA1774S: 8C
- 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}	-6.0	V
Collector Current - Continuous (Note 1)	I _C	150	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 1) T _A = 25°C	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	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	h _{FE}	120	270	—	V _{CE} = -6.0V, I _C = -1.0mA
		180	390		
		270	560		
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.
 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.

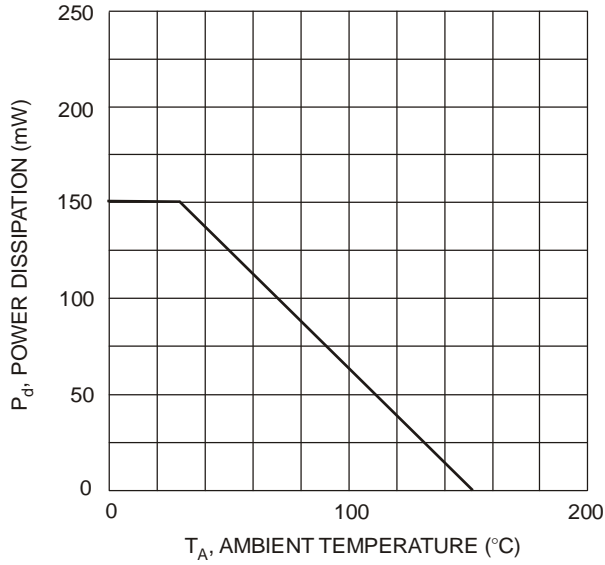


Fig. 1 Power Derating Curve, Total Package

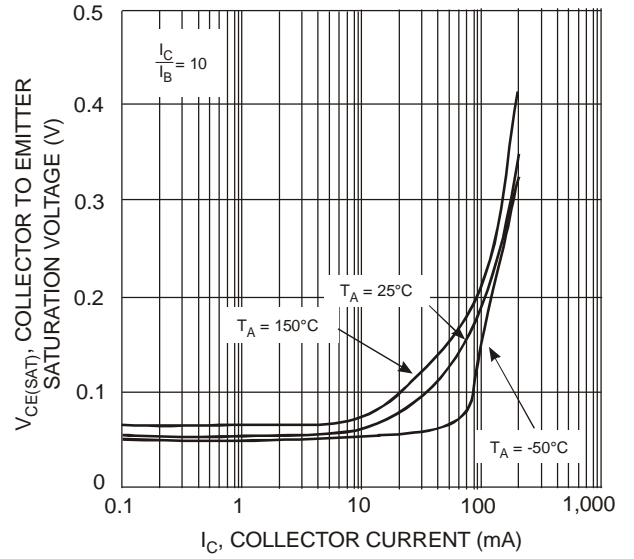


Fig. 2 Collector Emitter Saturation Voltage vs. Collector Current

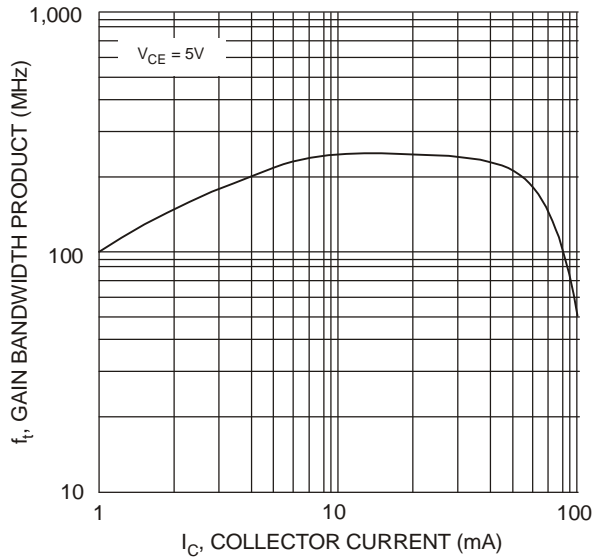


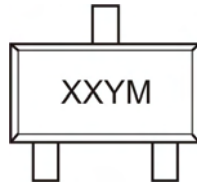
Fig. 3 Gain Bandwidth Product vs. Collector Current

Ordering Information (Note 6)

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: 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. 8A = 2DA1774Q)
 YM = Date Code Marking
 Y = Year (ex: N = 2002)
 M = Month (ex: 9 = September)

Date Code Key

Year	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Code	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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