Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
OFF CHARACTERISTICS (Note 4)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	25	—	—	V	I_C = 1mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6.0	—	—	V	I_C = 10μA, I_C = 0
Collector-Base Cutoff Current	I_{CBO}	—	—	100	nA	V_{CB} = 20V, I_E = 0
Emitter-Base Cutoff Current	I_{EBO}	—	—	100	nA	V_{EB} = 4.0V, I_C = 0
ON CHARACTERISTICS (Note 4)						
DC Current Gain	h_{FE}	200 65	— —	400 —	—	V_{CE} = 2.0V, I_C = 0.1A V_{CE} = 2.0V, I_C = 1.5A
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	0.12	0.4	V	I_C = 1.5A, I_B = 75mA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	0.9	1.2	V	I_C = 1.5A, I_B = 75mA
SMALL SIGNAL CHARACTERISTICS						
Current Gain-Bandwidth Product	f_T	—	300	—	MHz	V_{CE} = 10V, I_C = 50mA, f = 100MHz
Output Capacitance	C_{obo}	—	16	—	pF	V_{CB} = 10V, I_E = 0, f = 1MHz
SWITCHING CHARACTERISTICS						
Turn On Time	t_{on}	—	70	—	ns	V_{CE} = 12V, V_{BE} = 5V, I_{B1} = I_{B2} = 25mA, I_C = 500mA
Storage Time	t_{stg}	—	170	—	ns	
Fall Time	t_f	—	25	—	ns	

Notes: 4. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤2%.

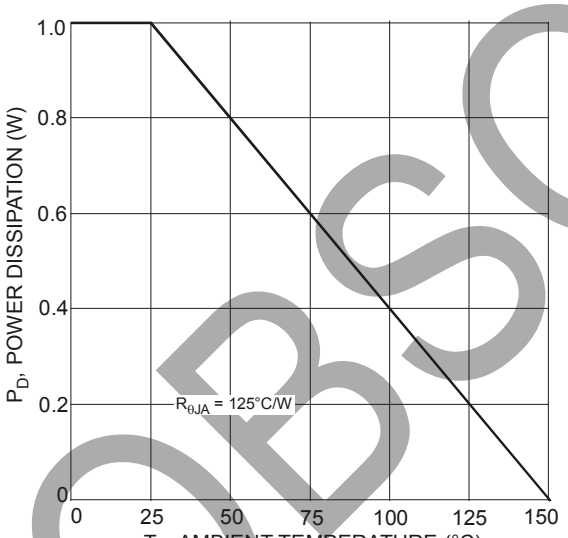


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 3)

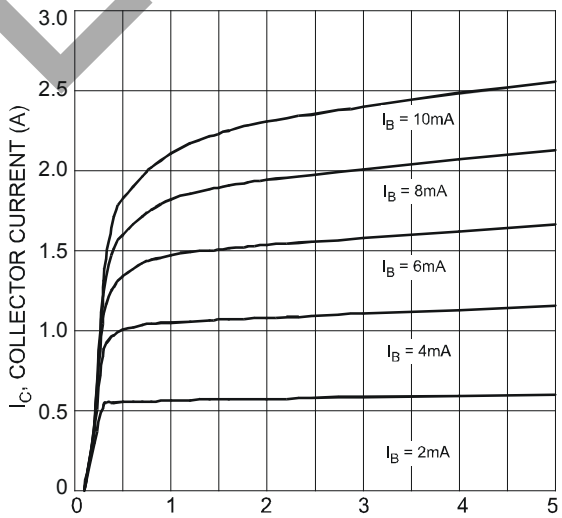


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage

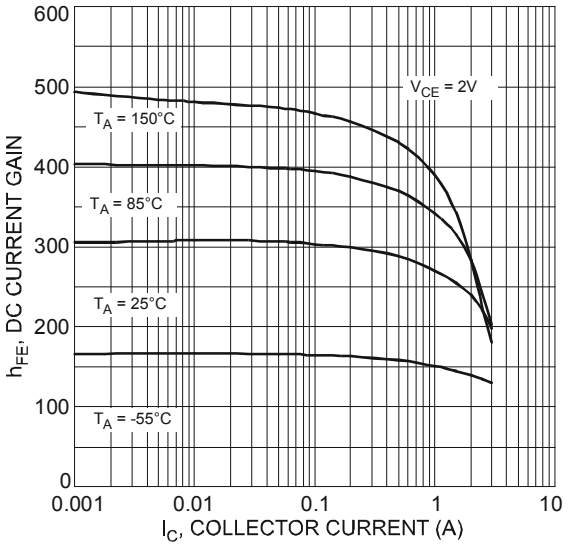


Fig. 3 Typical DC Current Gain vs. Collector Current

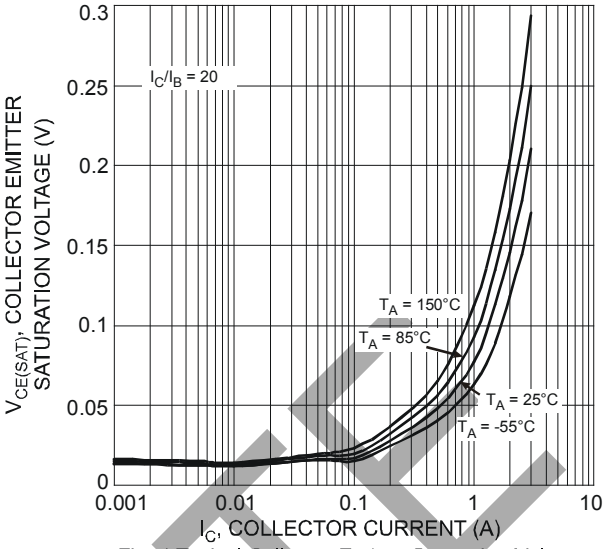


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

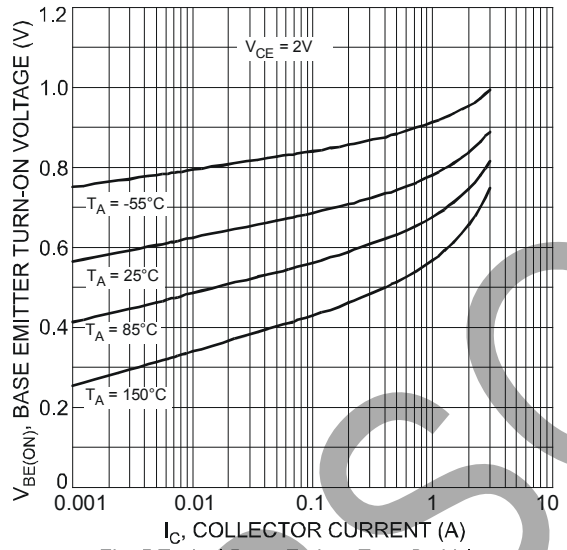


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

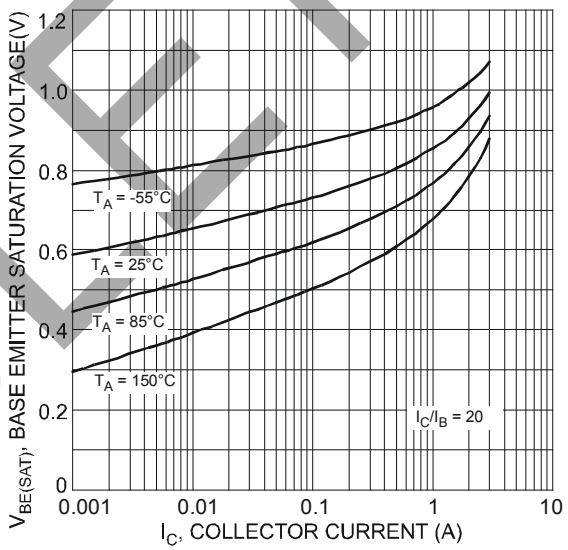


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

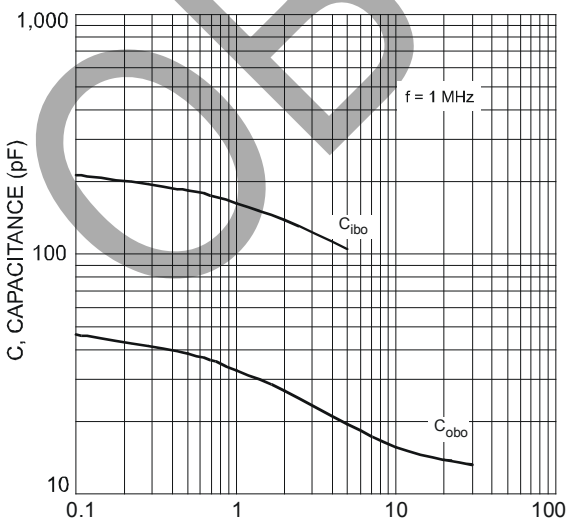


Fig. 7 Typical Junction Capacitance Characteristics

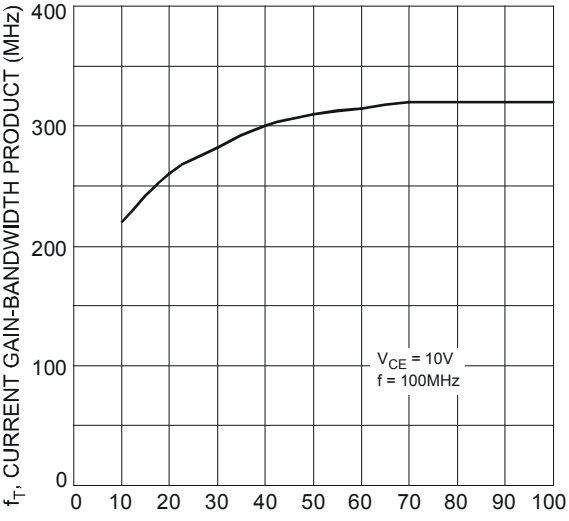


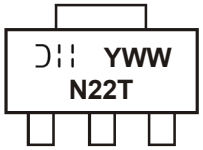
Fig. 8 Typical Gain-Bandwidth Product vs. Collector Current

Ordering Information (Note 5)

Part Number	Case	Packaging
2DD1621T-13	SOT89-3L	2500/Tape & Reel

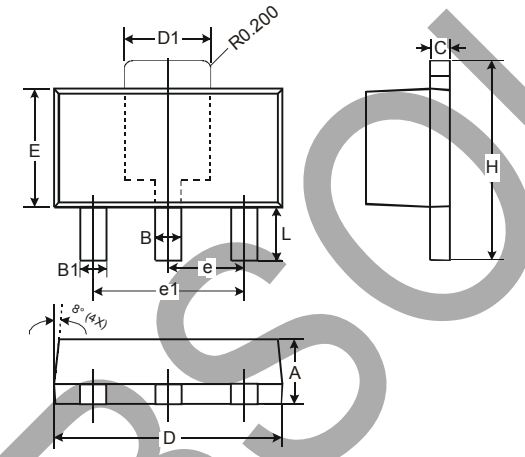
Notes: 5. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



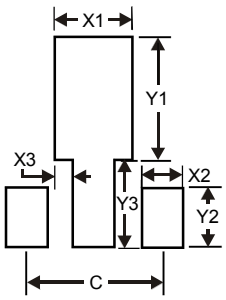
N22T = Product Type Marking Code
YWW = Date Code Marking
Y = Last digit of year (ex: 7 = 2007)
WW = Week code (01 – 53)

Package Outline Dimensions



SOT89-3L		
Dim	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.43
D	4.40	4.60
D1	1.52	1.83
E	2.29	2.60
e	1.50 Typ	
e1	3.00 Typ	
H	3.94	4.25
L	0.89	1.20
All Dimensions in mm		

Suggested Pad Layout



Dimensions	Value (in mm)
X1	1.7
X2	0.9
X3	0.4
Y1	2.7
Y2	1.3
Y3	1.9
C	3.0

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