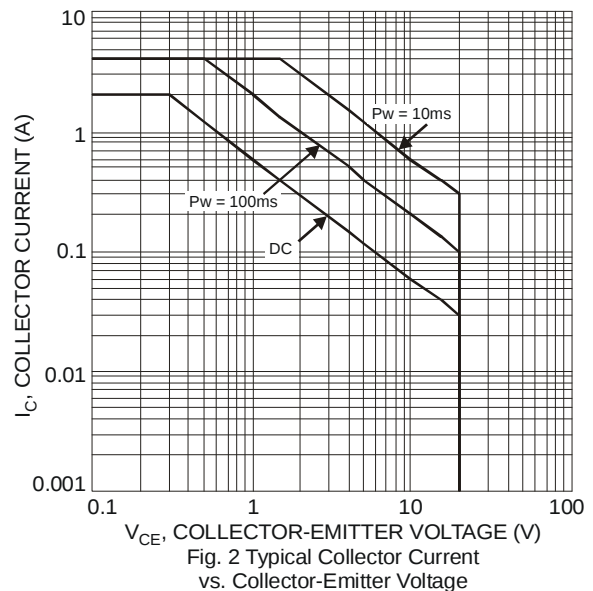
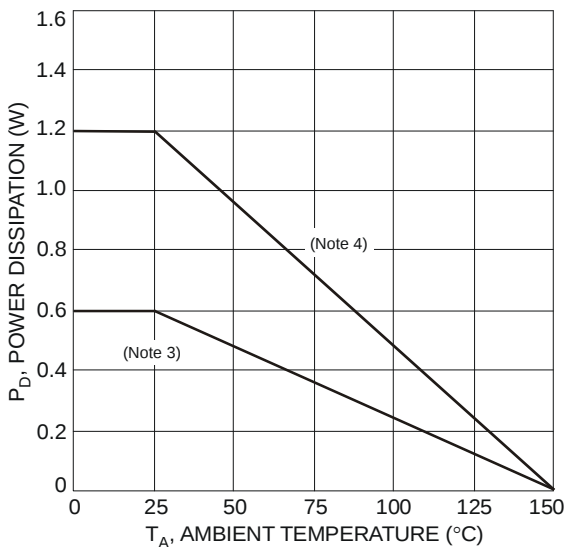


Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	V _{(BR)CBO}	20	—	—	V	I _C = 100μA
Collector-Emitter Breakdown Voltage (Note 5)	V _{(BR)CEO}	20	—	—	V	I _C = 10mA
Emitter-Base Breakdown Voltage	V _{(BR)EBO}	6	—	—	V	I _E = 100μA
Collector-Base Cutoff Current	I _{CBO}	—	—	100	nA	V _{CB} = 20V, I _E = 0
Emitter-Base Cutoff Current	I _{EBO}	—	—	100	nA	V _{EB} = 6V, I _C = 0
ON CHARACTERISTICS (Note 5)						
DC Current Gain	h _{FE}	200	—	—	—	V _{CE} = 2V, I _C = 10mA
		200	330	—		V _{CE} = 2V, I _C = 500mA
		200	—	—		V _{CE} = 2V, I _C = 1A
		200	—	—		V _{CE} = 2V, I _C = 2A
Collector-Emitter Saturation Voltage	V _{CE(SAT)}	—	—	10	mV	I _C = 0.1A, I _B = 10mA
		—	40	50		I _C = 1.0A, I _B = 100mA
		—	75	90		I _C = 1.0A, I _B = 10mA
		—	70	100		I _C = 2.0A, I _B = 200mA
Equivalent On-Resistance	R _{CE(SAT)}	—	35	50	mΩ	I _E = 2A, I _B = 200mA
Base-Emitter Saturation Voltage	V _{BE(SAT)}	—	—	0.9	V	I _C = 1A, I _B = 10mA
Base-Emitter Turn-on Voltage	V _{BE(ON)}	—	—	0.9	V	V _{CE} = 2V, I _C = 1A
SMALL SIGNAL CHARACTERISTICS						
Transition Frequency	f _T	150	—	—	MHz	V _{CE} = 5V, I _C = 100mA, f = 100MHz
Output Capacitance	C _{obo}	—	—	45	pF	V _{CB} = 3V, f = 1MHz
Input Capacitance	C _{ibo}	—	—	450	pF	V _{EB} = 0.5V, f = 1MHz
SWITCHING CHARACTERISTICS						
Turn-On Time	t _{on}	—	—	200	ns	V _{CC} = 15V, I _C = 750mA, I _{B1} = 15mA
Delay Time	t _d	—	—	100	ns	
Rise Time	t _r	—	—	100	ns	
Turn-Off Time	t _{off}	—	—	610	ns	V _{CC} = 15V, I _C = 750mA, I _{B1} = I _{B2} = 15mA
Storage Time	t _s	—	—	500	ns	
Fall Time	t _f	—	—	110	ns	

Notes: 5. Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤2%.



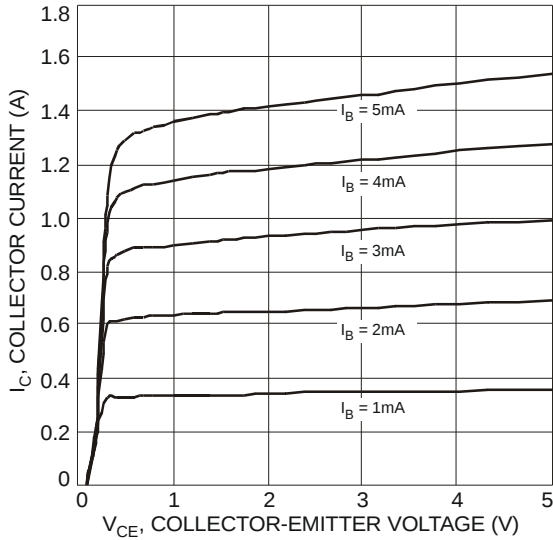


Fig. 3 Typical Collector Current vs. Collector-Emitter Voltage

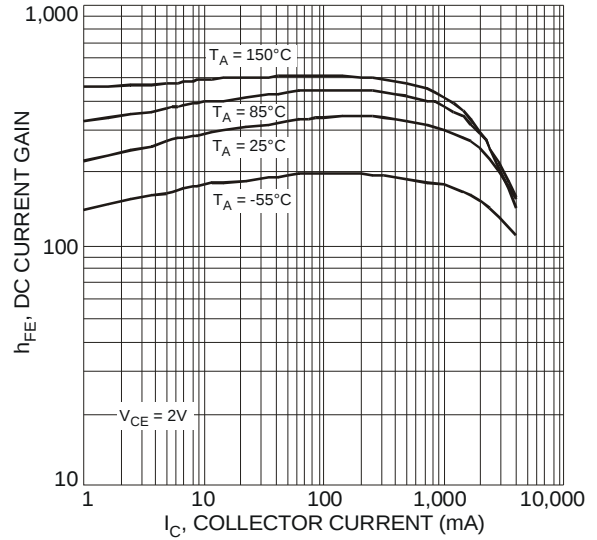


Fig. 4 Typical DC Current Gain vs. Collector Current

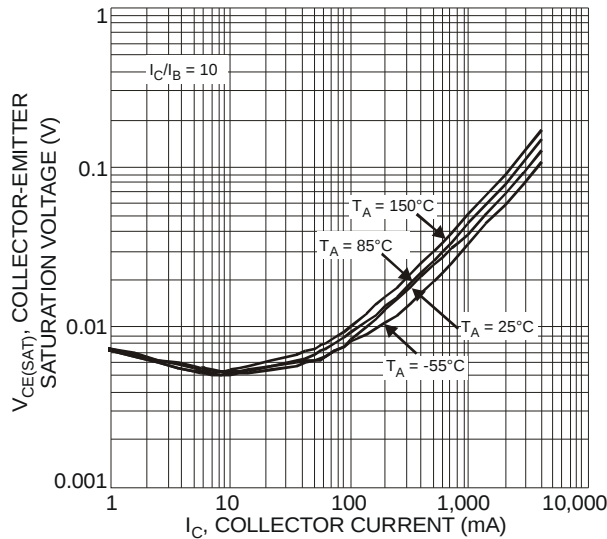


Fig. 5 Typical Collector-Emitter Saturation Voltage vs. Collector Current

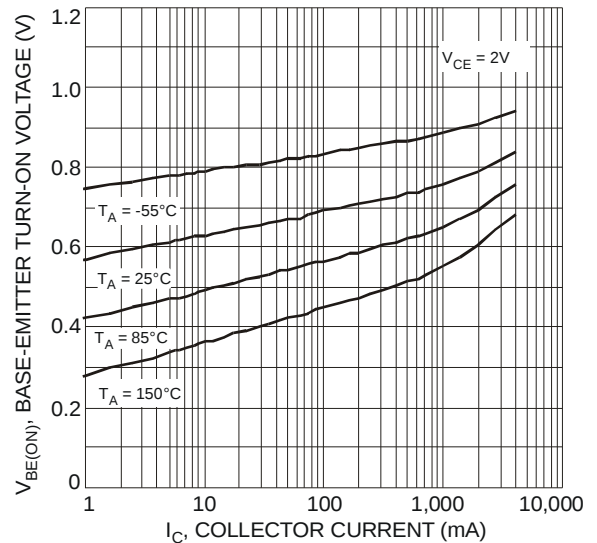


Fig. 6 Typical Base-Emitter Turn-On Voltage vs. Collector Current

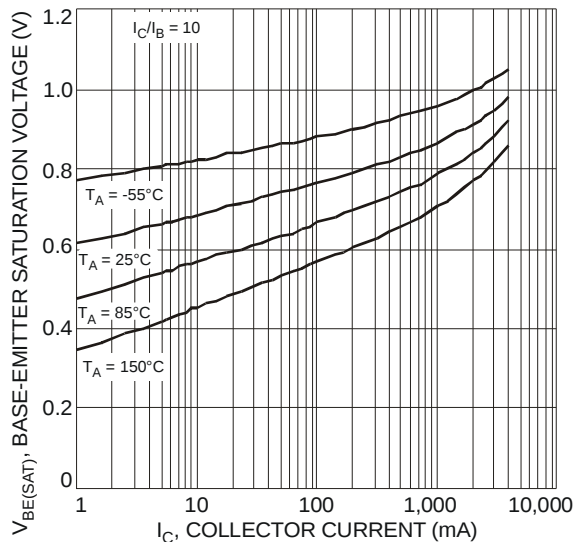


Fig. 7 Typical Base-Emitter Saturation Voltage vs. Collector Current

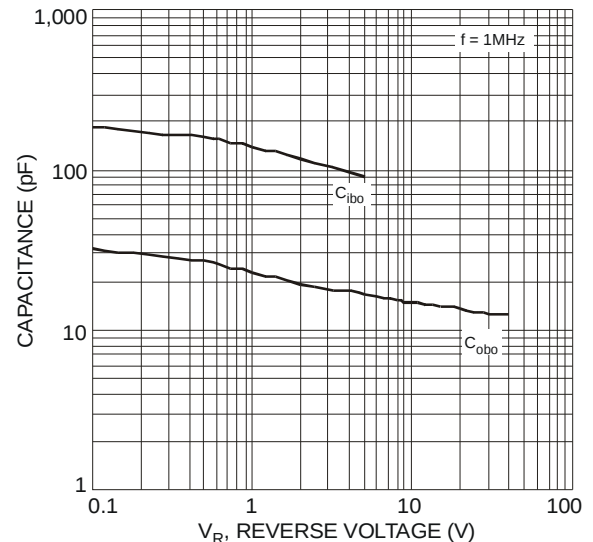


Fig. 8 Typical Capacitance Characteristics

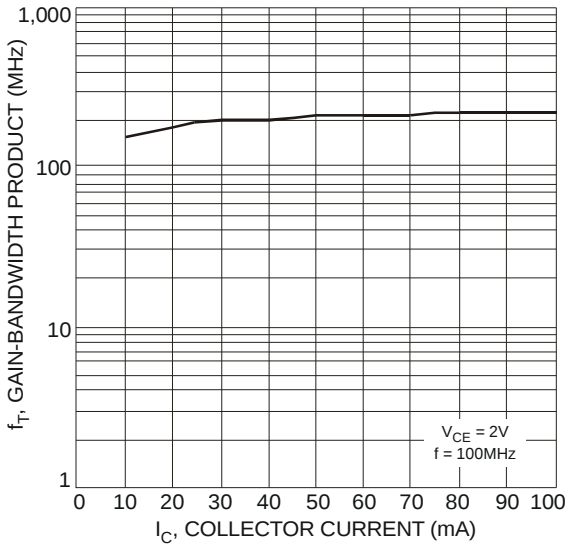


Fig. 9 Typical Gain-Bandwidth Product vs. Collector Current

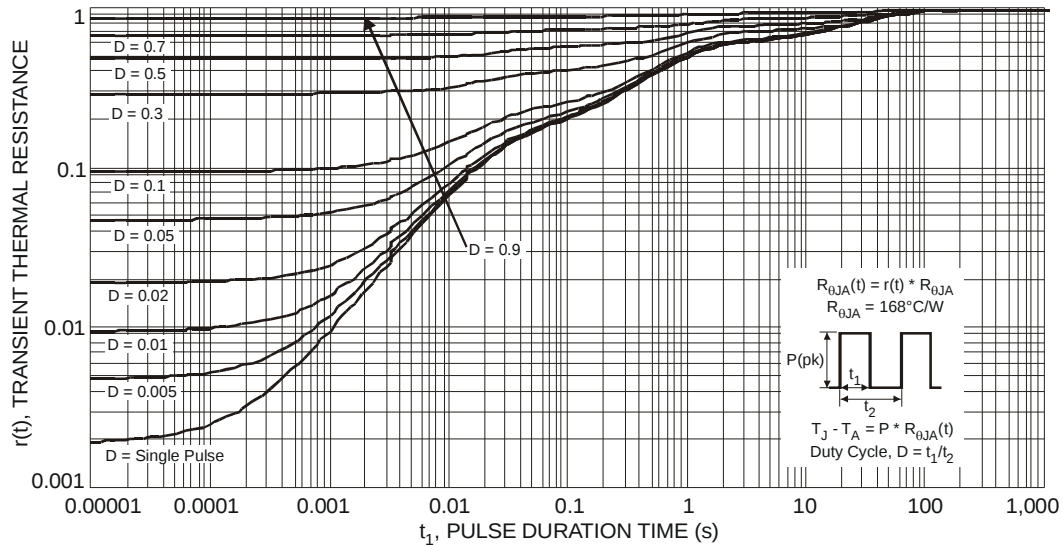


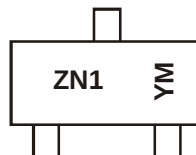
Fig. 10 Transient Thermal Response

Ordering Information (Note 6)

Part Number	Case	Packaging
DSS20201L-7	SOT-23	3000/Tape & Reel

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

Marking Information



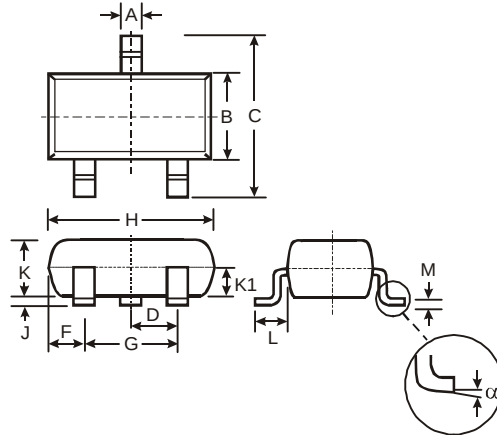
ZN1 = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: V = 2008)
M = Month (ex: 9 = September)

Date Code Key

Year	2008	2009	2010	2011	2012	2013	2014	2015
Code	V	W	X	Y	Z	A	B	C

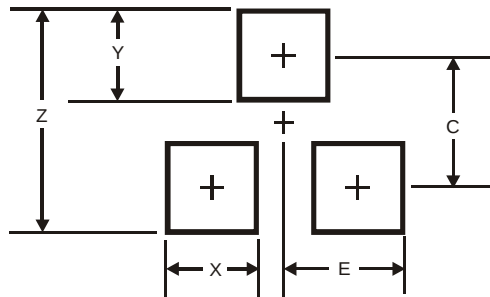
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-23			
Dim	Min	Max	Typ
A	0.37	0.51	0.40
B	1.20	1.40	1.30
C	2.30	2.50	2.40
D	0.89	1.03	0.915
F	0.45	0.60	0.535
G	1.78	2.05	1.83
H	2.80	3.00	2.90
J	0.013	0.10	0.05
K	0.903	1.10	1.00
K1	-	-	0.400
L	0.45	0.61	0.55
M	0.085	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.9
X	0.8
Y	0.9
C	2.0
E	1.35

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