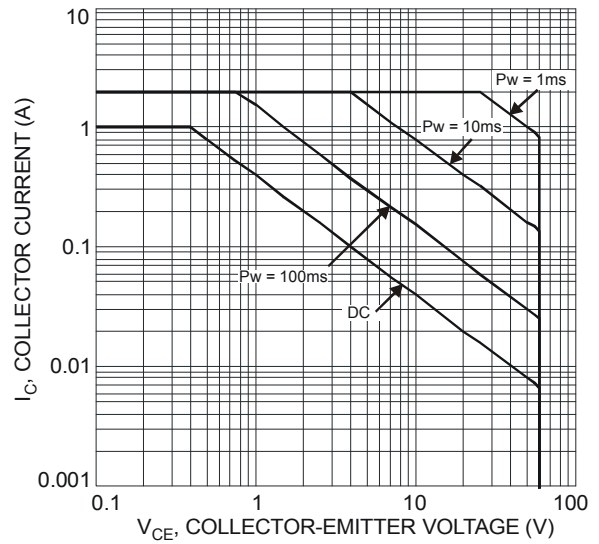
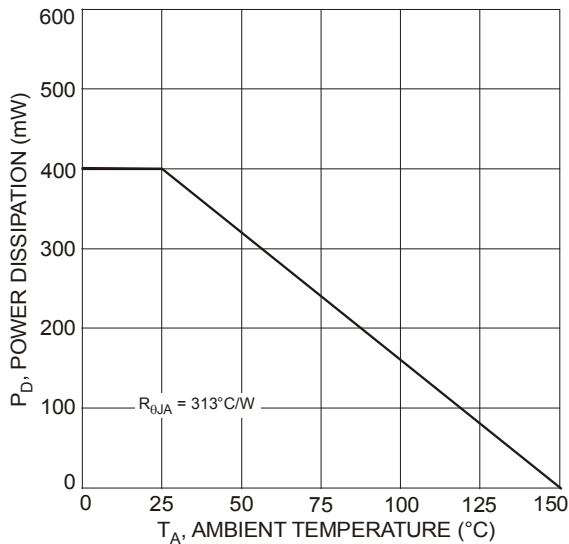


Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	80	—	—	V	$I_C = 100\mu\text{A}$, $I_E = 0$
Collector-Emitter Breakdown Voltage (Note 4)	$V_{(BR)CEO}$	60	—	—	V	$I_C = 10\text{mA}$, $I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 100\mu\text{A}$, $I_C = 0$
Collector Cutoff Current	I_{CBO}	—	—	100 50	nA μA	$V_{CB} = 60\text{V}$, $I_E = 0$ $V_{CB} = 60\text{V}$, $I_E = 0$, $T_A = 150^\circ\text{C}$
Collector Cutoff Current	I_{CES}	—	—	100	nA	$V_{CE} = 60\text{V}$, $V_{BE} = 0$
Emitter Cutoff Current	I_{EBO}	—	—	100	nA	$V_{EB} = 5\text{V}$, $I_C = 0$
ON CHARACTERISTICS (Note 4)						
DC Current Gain	h_{FE}	250 200 100	— — —	— — —	—	$V_{CE} = 5\text{V}$, $I_C = 1\text{mA}$ $V_{CE} = 5\text{V}$, $I_C = 500\text{mA}$ $V_{CE} = 5\text{V}$, $I_C = 1\text{A}$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	— — —	— — —	115 150 280	mV	$I_C = 100\text{mA}$, $I_B = 1\text{mA}$ $I_C = 500\text{mA}$, $I_B = 50\text{mA}$ $I_C = 1\text{A}$, $I_B = 100\text{mA}$
Collector-Emitter Saturation Resistance	$R_{CE(SAT)}$	—	—	280	m Ω	$I_C = 1\text{A}$, $I_B = 100\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	1.1	V	$I_C = 1\text{A}$, $I_B = 50\text{mA}$
Base-Emitter Turn On Voltage	$V_{BE(ON)}$	—	—	0.9	V	$V_{CE} = 5\text{V}$, $I_C = 1\text{A}$
SMALL SIGNAL CHARACTERISTICS						
Output Capacitance	C_{obo}	—	—	10	pF	$V_{CB} = 10\text{V}$, $f = 1.0\text{MHz}$
Current Gain-Bandwidth Product	f_T	150	—	—	MHz	$V_{CE} = 10\text{V}$, $I_C = 50\text{mA}$, $f = 100\text{MHz}$
SWITCHING CHARACTERISTICS						
Turn-On Time	t_{on}	—	63	—	ns	$V_{CC} = 10\text{V}$ $I_C = 0.5\text{A}$, $I_{B1} = I_{B2} = 25\text{mA}$
Delay Time	t_d	—	33	—	ns	
Rise Time	t_r	—	30	—	ns	
Turn-Off Time	t_{off}	—	420	—	ns	
Storage Time	t_s	—	380	—	ns	
Fall Time	t_f	—	40	—	ns	

 Notes: 4. Measured under pulsed conditions. Pulse width = $300\mu\text{s}$. Duty cycle $\leq 2\%$.


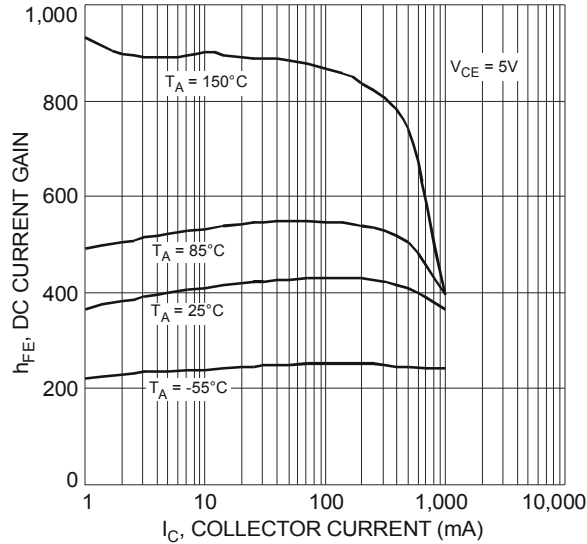


Fig. 3 Typical DC Current Gain vs. Collector Current

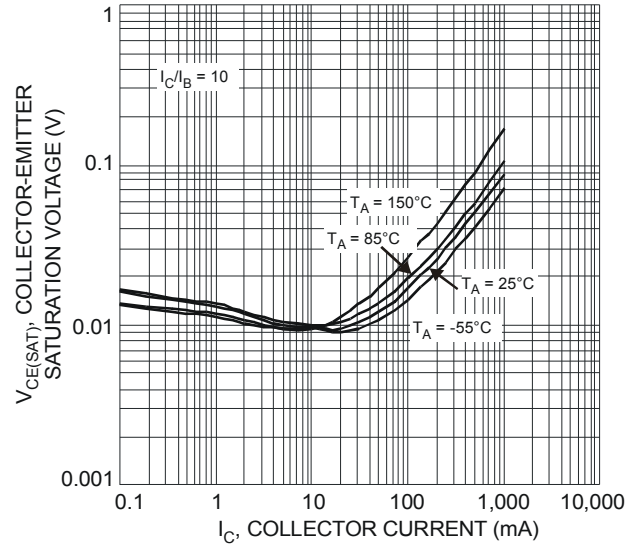


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

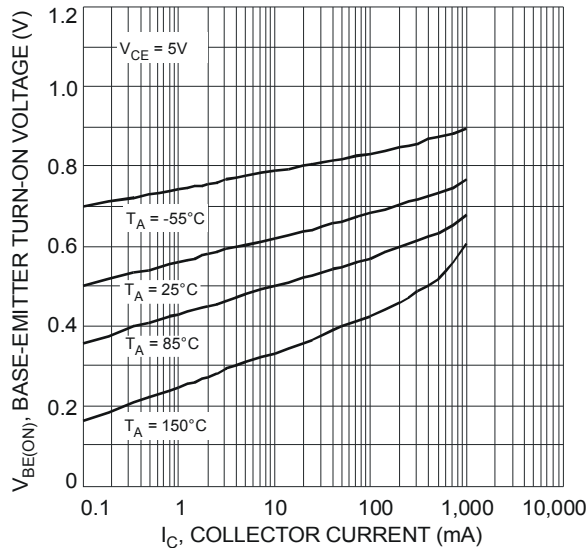


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

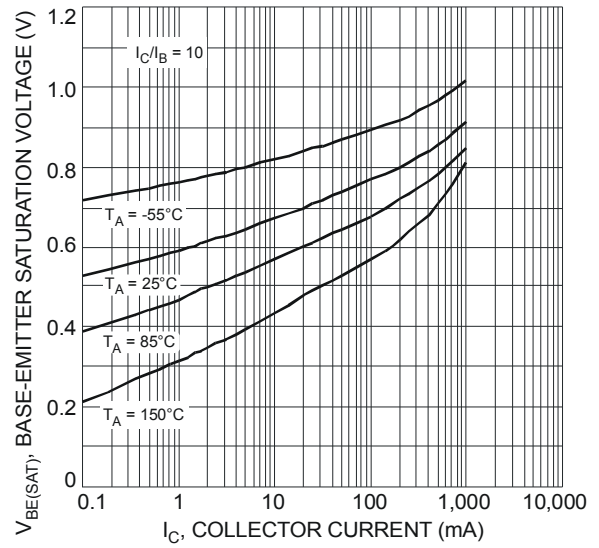


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

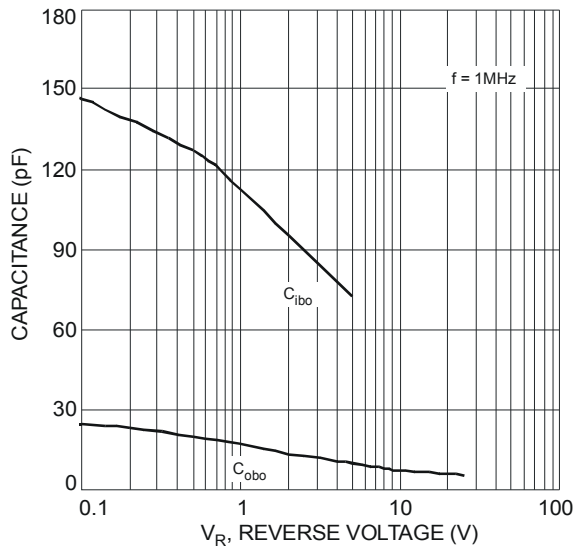


Fig. 7 Typical Capacitance Characteristics

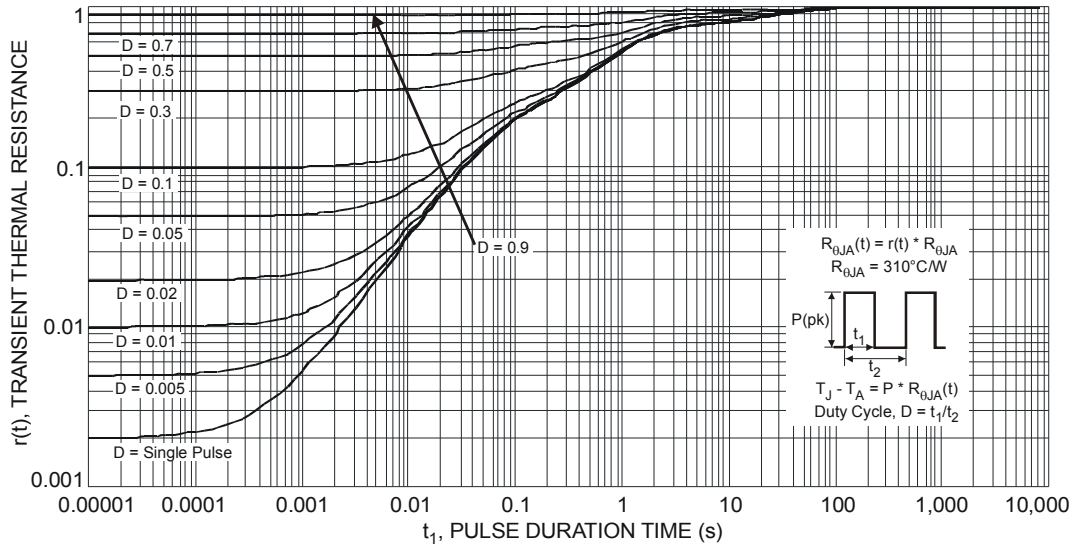


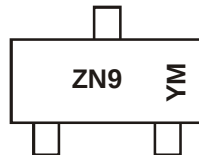
Fig. 8 Transient Thermal Response (Note 3)

Ordering Information (Note 5)

Part Number	Case	Packaging
DSS4160U-7	SOT-323	3000/Tape & Reel

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

Marking Information



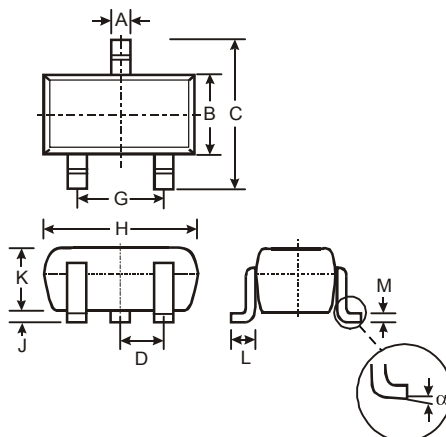
ZN9 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year (ex: V = 2008)
 M = Month (ex: 9 = September)

Date Code Key

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

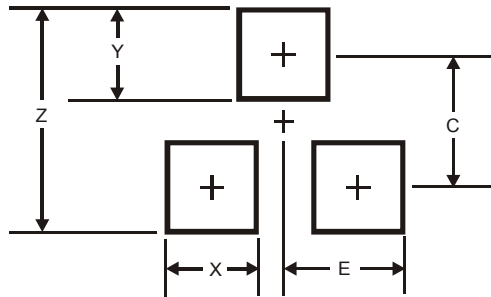
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D

Package Outline Dimensions



SOT-323			
Dim	Min	Max	Typ
A	0.25	0.40	0.30
B	1.15	1.35	1.30
C	2.00	2.20	2.10
D	-	-	0.65
G	1.20	1.40	1.30
H	1.80	2.20	2.15
J	0.0	0.10	0.05
K	0.90	1.00	1.00
L	0.25	0.40	0.30
M	0.10	0.18	0.11
α	0°	8°	-
All Dimensions in mm			

Suggested Pad Layout



Dimensions	Value (in mm)
Z	2.8
X	0.7
Y	0.9
C	1.9
E	1.0

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