NEW PRODUCT

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Conditions
OFF CHARACTERISTICS (Note 5)					
Collector-Base Cutoff Current	I_{CBO}	—	-0.01	μA	V_{CB} = -50V, I_E = 0
		—	-10		V_{CB} = -50V, I_E = 0, T_A = 150°C
Collector Cutoff Current	I_{CEX}	—	-50	nA	V_{CE} = -30V, $V_{EB(OFF)}$ = -0.5V
Base Cutoff Current	I_{BL}	—	-50	nA	V_{CE} = -30V, $V_{EB(OFF)}$ = -0.5V
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-60	—	V	I_C = -10 μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-60	—	V	I_C = -10 mA, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5	—	V	I_E = -10 μA, I_C = 0
ON CHARACTERISTICS (Note 5)					
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	-0.4	V	I_C = -150mA, I_B = -15mA
		—	-1.6	V	I_C = -500mA, I_B = -50mA
DC Current Gain	h_{FE}	75	—	—	V_{CE} = -10V, I_C = -100μA
		100	—	—	V_{CE} = -10V, I_C = -1mA
		100	—	—	V_{CE} = -10V, I_C = -10mA
		100	300	—	V_{CE} = -10V, I_C = -150mA
		50	—	—	V_{CE} = -10V, I_C = -500mA
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	-1.3	V	I_C = -150mA, I_B = -15mA
		—	-2.6	V	I_C = -500mA, I_B = -50mA
SMALL SIGNAL CHARACTERISTICS					
Current Gain-Bandwidth Product	f_T	200	—	MHz	V_{CE} = -20V, I_C = -50mA, f = 100MHz
Output Capacitance	C_{obo}	—	8	pF	V_{CB} = -10V, I_E = 0A, f =1MHz
Input Capacitance	C_{ibo}	—	30	pF	V_{EB} = -2V, I_C = 0A, f =1MHz
SWITCHING CHARACTERISTICS					
Turn-On Time	t_{on}	—	45	ns	V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA
Delay Time	t_d	—	10	ns	
Rise Time	t_r	—	40	ns	
Turn-Off Time	t_{off}	—	100	ns	V_{CC} = -6V, I_C = -150mA, I_{B1} = I_{B2} = -15mA
Storage Time	t_s	—	80	ns	
Fall Time	t_f	—	30	ns	

Notes: 5. Pulse Test: Pulse width, tp<300 uS, Duty Cycle, d< =0.02

Typical Characteristics @T_A = 25°C unless otherwise specified

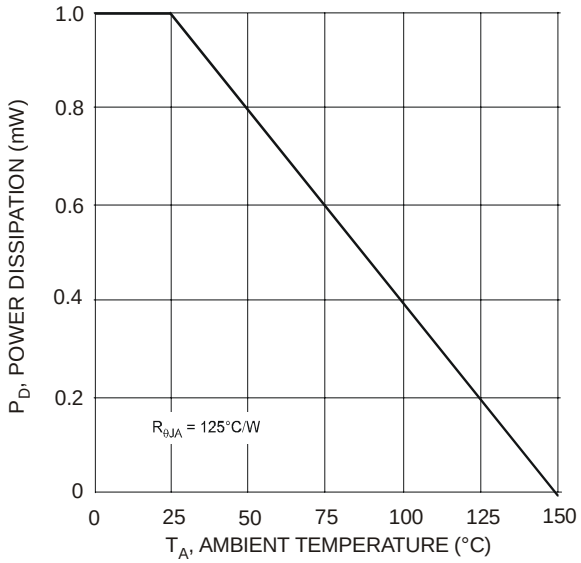


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 3)

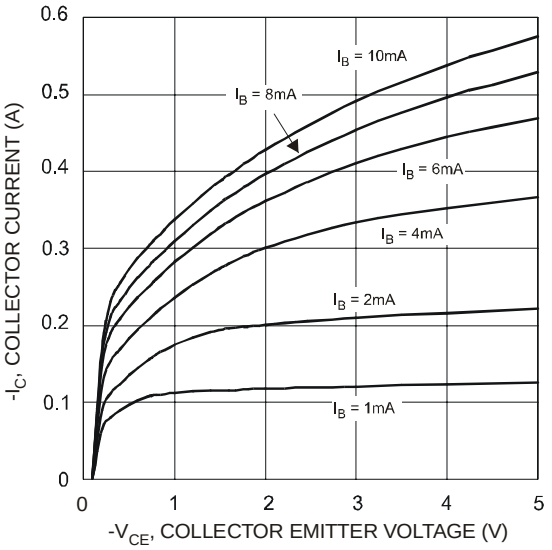


Fig. 2 Typical Collector Current as a Function of Collector Emitter Voltage

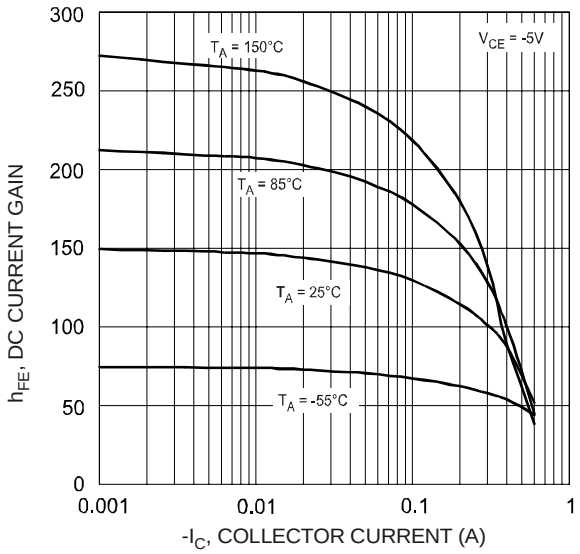


Fig. 3 Typical DC Current Gain vs. Collector Current

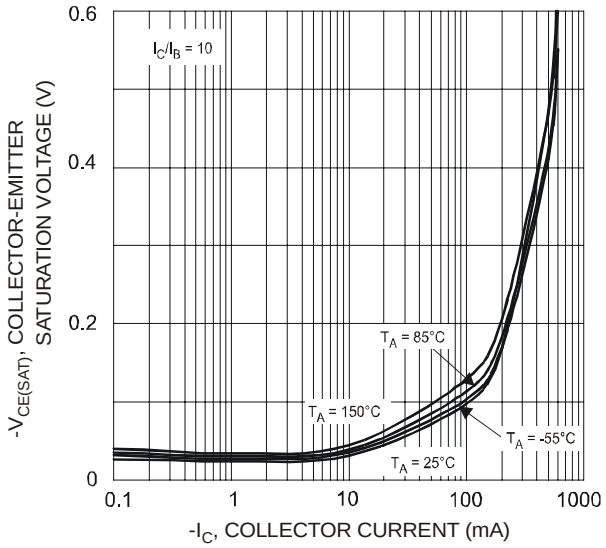


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

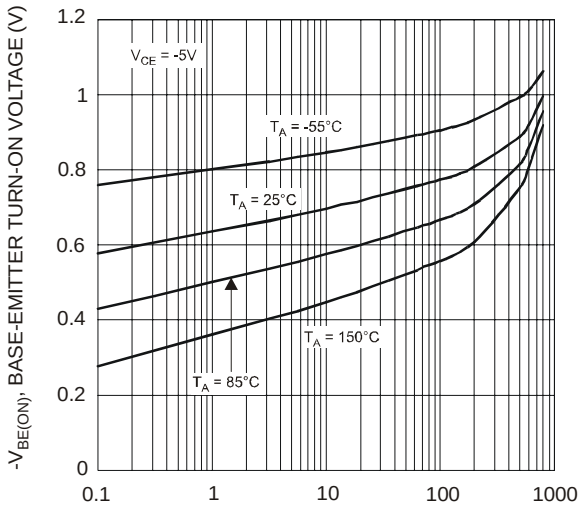


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

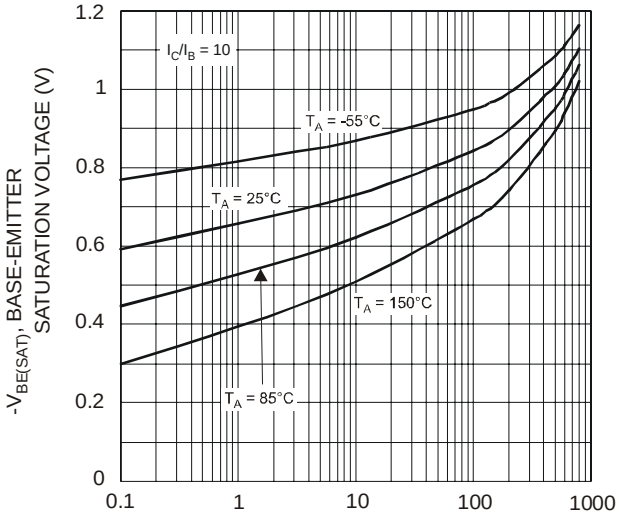


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

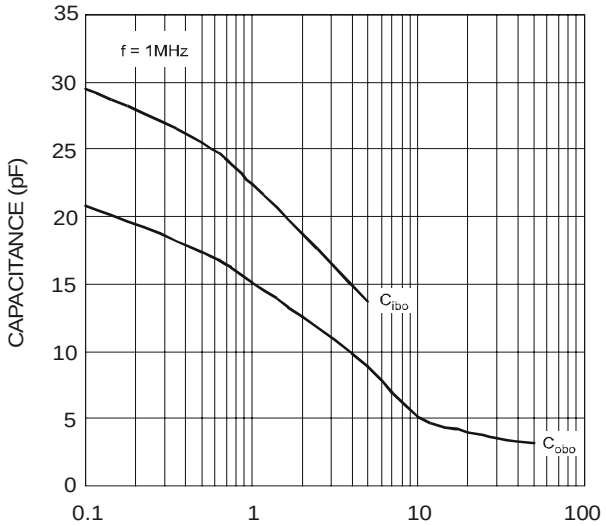


Fig. 7 Typical Capacitance Characteristics

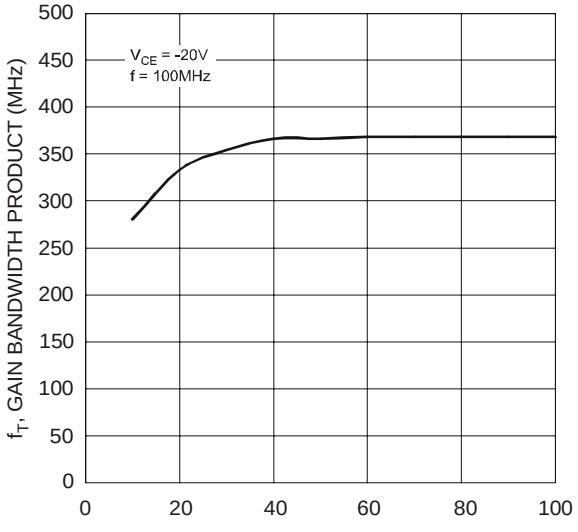


Fig. 8 Typical Gain-Bandwidth Product vs. Collector Current

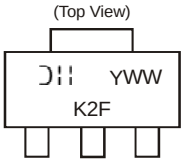
NEW PRODUCT

Ordering Information (Note 6)

Device	Packaging	Shipping
DZT2907A-13	SOT-223	2500/Tape & Reel

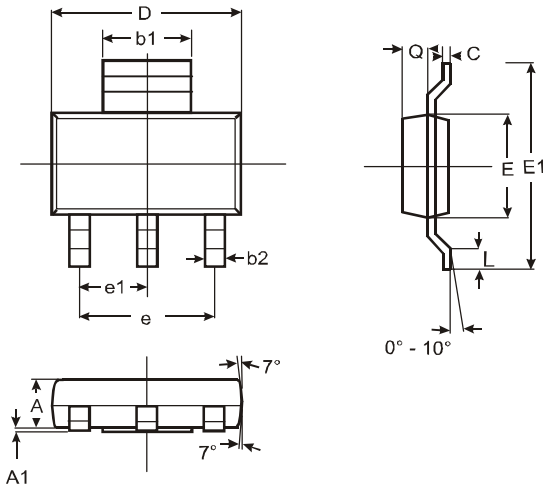
Notes: 6. For packaging details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information



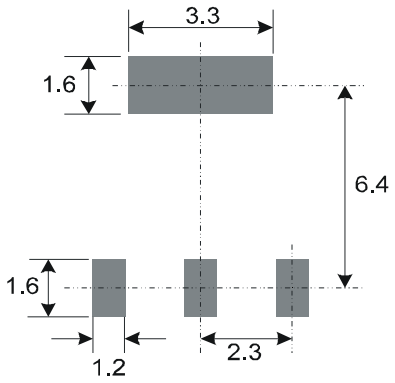
= Manufacturer's code marking
K2F = Product type marking code
YWW = Date code marking
Y = Last digit of year ex: 7 = 2007
WW = Week code 01 - 52

Package Outline Dimensions



SOT-223			
Dim	**Min**	**Max**	**Typ**
A	1.55	1.65	1.60
A1	0.010	0.15	0.05
b1	2.90	3.10	3.00
b2	0.60	0.80	0.70
C	0.20	0.30	0.25
D	6.45	6.55	6.50
E	3.45	3.55	3.50
E1	6.90	7.10	7.00
e	—	—	4.60
e1	—	—	2.30
L	0.85	1.05	0.95
Q	0.84	0.94	0.89
All Dimensions in mm			

Suggested Pad Layout: (Based on IPC-SM-782)



(Unit:mm)