Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

NEW PRODUCT

DZT853

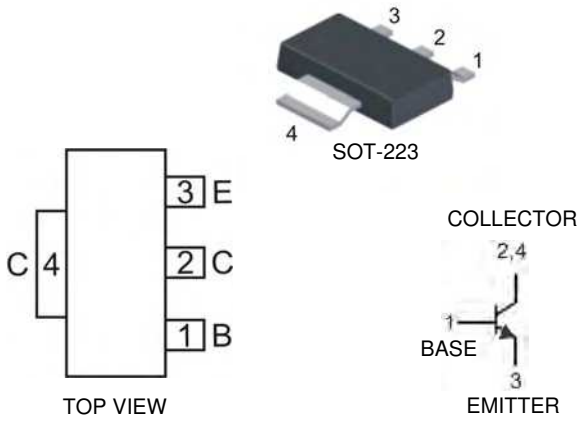
NPN SURFACE MOUNT TRANSISTOR

Features

- Epitaxial Planar Die Construction
- Complementary PNP Type Available (DZT953)
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications
- **Lead Free By Design/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

Mechanical Data

- Case: SOT-223
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish — Matte Tin annealed over Copper Leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.115 grams (approximate)



Schematic and Pin Configuration

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	200	V
Collector-Emitter Voltage	V_{CEO}	100	V
Emitter-Base Voltage	V_{EBO}	6	V
Continuous Collector Current	I_C	6	A
Power Dissipation	P_{tot}	1 (Note 3) 3 (Note 4)	W
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Notes:
1. No purposefully added lead.
2. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
3. Device mounted on FR-4 PCB, pad layout as shown on page 4.
4. The power which can be dissipated, assuming the device is mounted in a typical manner on a PCB with copper equal to 4 square inch minimum.

NEW PRODUCT

Electrical Characteristics @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
OFF CHARACTERISTICS						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	200	—	—	V	I_C = 100μA, I_E = 0
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	100	—	—	V	I_C = 10mA*, I_B = 0
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	—		V	I_E = 100μA, I_C = 0
Collector Cutoff Current	I_{CBO}	—	—	10 1	nA μA	V_{CB} = 150V, I_E = 0 V_{CB} = 150V, I_E = 0, T_A = 100°C
Emitter Cutoff Current	I_{EBO}	—	—	10	nA	V_{EB} = 6V, I_C = 0
ON CHARACTERISTICS						
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	— — —	— — —	50 150 340	mV	I_C = 0.1A, I_B = 5mA* I_C = 2A, I_B = 100mA* I_C = 5A, I_B = 500mA*
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	1250	mV	I_C = 5A, I_B = 500mA*
Base-Emitter Turn-On Voltage	$V_{BE(ON)}$	—	—	1100	mV	I_{CE} = 5A, V_{CE} = 2V*
DC Current Gain	h_{FE}	100 100 50 20	— — — —	— 300 — —	—	I_C = 10mA, V_{CE} = 2V* I_C = 2A, V_{CE} = 2V* I_C = 4A, V_{CE} = 2V* I_C = 10A, V_{CE} = 2V*
SMALL SIGNAL CHARACTERISTICS						
Current Gain-Bandwidth Product	f_T	—	130	—	MHz	I_C = 100mA, V_{CE} = 10V, f = 50MHz
Output Capacitance	C_{obo}	—	35	—	pF	V_{CB} = 10V, f = 1MHz
SWITCHING CHARACTERISTICS						
Switching Times	t_{on} t_{off}	—	50 1650	—	ns ns	I_C = 1A, V_{CC} = 10V I_{B1} = I_{B2} = 100mA

* Measured under pulsed conditions. Pulse width = 300μs. Duty cycle ≤2%

Typical Characteristics @T_{amb} = 25°C unless otherwise specified

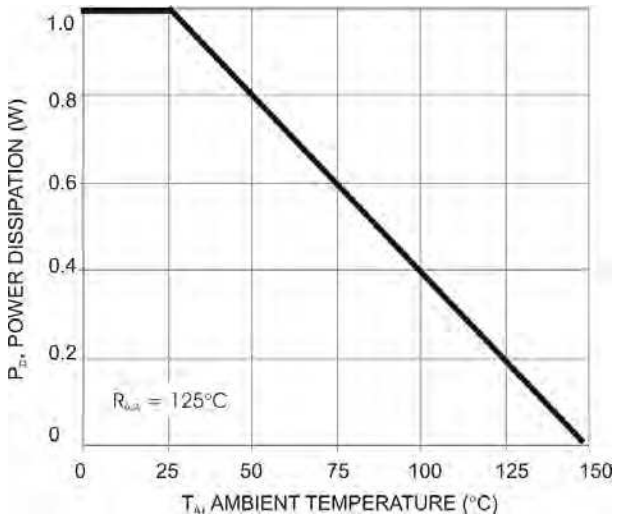


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 3)

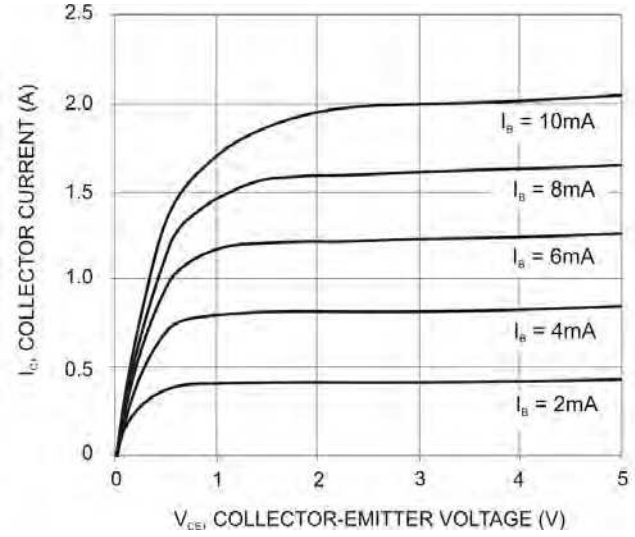


Fig. 2 Collector Current vs. Collector Emitter-Voltage

Notes: 3. Device mounted on FR-4 PCB, pad layout as shown on page 4.

NEW PRODUCT

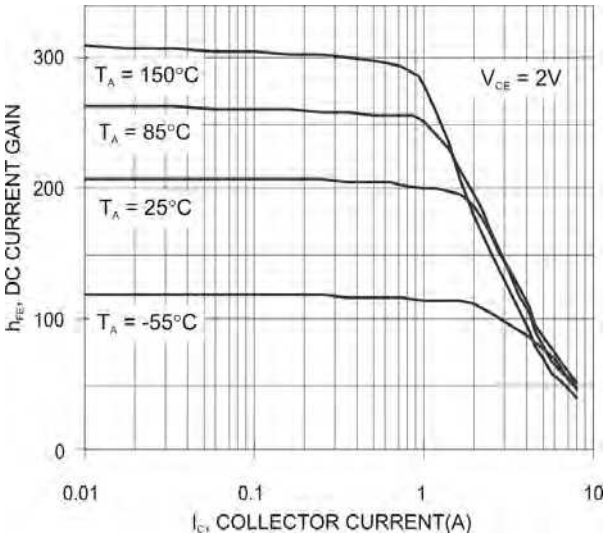


Fig. 3 Typical DC Current Gain vs. Collector Current

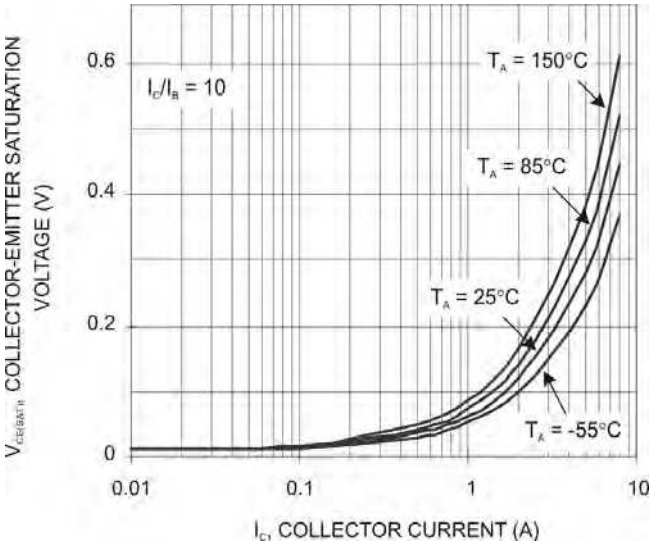


Fig. 4 Collector-Emitter Saturation Voltage vs. Collector Current

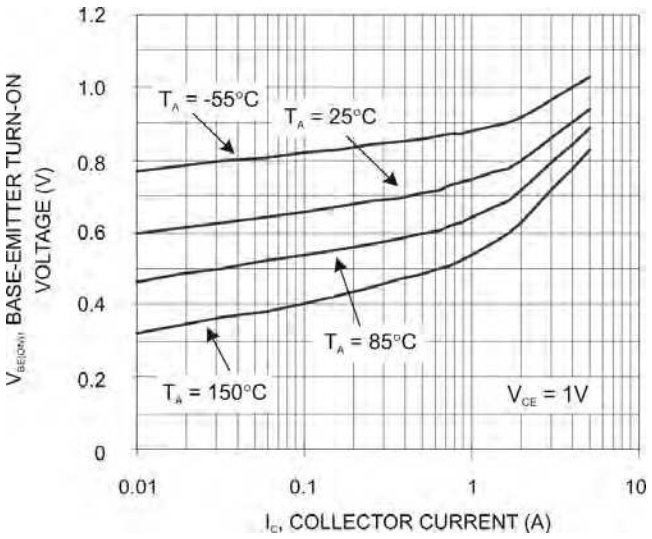


Fig. 5 Base-Emitter Turn-On Voltage vs. Collector Current

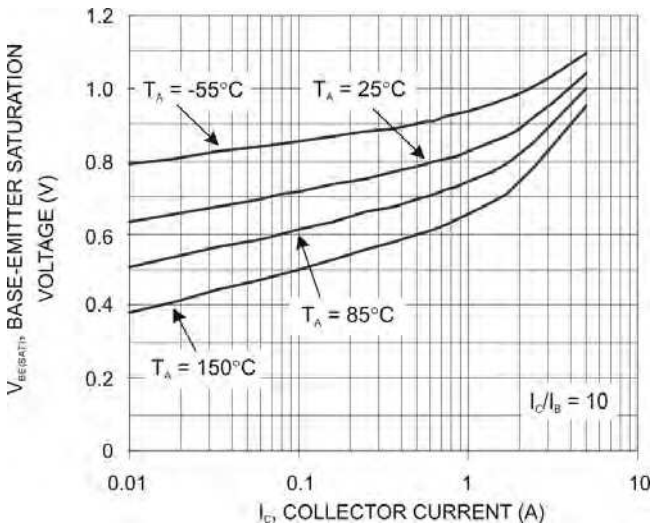


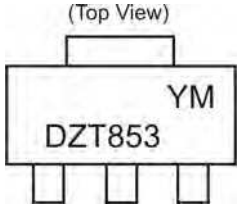
Fig. 6 Base-Emitter Saturation Voltage vs. Collector Current

Ordering Information (Note 5)

Device	Packaging	Shipping
DZT853-13	SOT-223	2500/Tape & Reel

Notes: 5. Packaging Details as shown on page 4, or go to our website at http://www.diodes.com/ap2007.pdf.

Marking Information



DZT853 = Product Type Marking Code
YM = Date Code Marking
Y = Year ex: T = 2006
M = Month ex: 9 = September

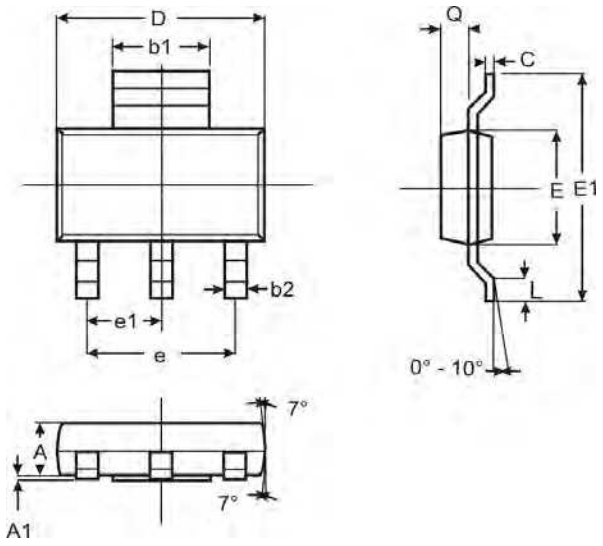
Date Code Key

Year	2006	2007	2008	2009	2010	2011	2012
Code	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

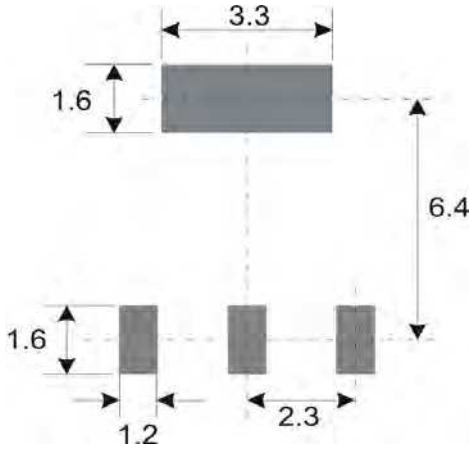
NEW PRODUCT

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)