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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.

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150V NPN MEDIUM POWER TRANSISTOR IN SOT223
Features

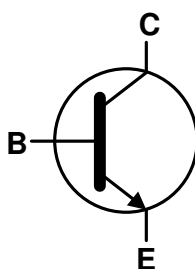
- $BV_{CEO} > 150V$
- $I_C = 5A$ High Continuous Collector Current
- $I_{CM} = 10A$ Peak Pulse Current
- Very Low Saturation Voltage $V_{CE(sat)} < 110mV @ 1A$
- $R_{CE(sat)} = 50m\Omega$ for a Low Equivalent On-Resistance
- h_{FE} Specified Up to 10A for a High Gain Hold-Up
- Complementary PNP Type: FZT955
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

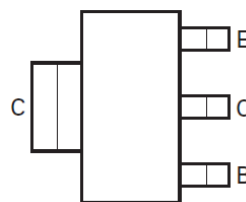
- Case: SOT223
- Case Material: Molded Plastic. "Green" Molding Compound; UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Plated Leads; Solderable per MIL-STD-202, Method 208 (B3)
- Weight: 0.112 grams (Approximate)



Top View



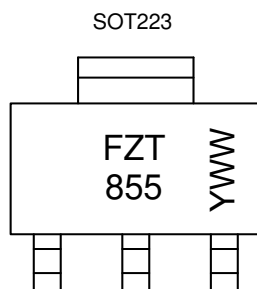
Device Symbol


 Top View
 Pin-Out

Ordering Information (Note 4)

Product	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
FZT855TA	FZT855	7	12	1,000

- Notes:
1. EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant. All applicable RoHS exemptions applied.
 2. See http://www.diodes.com/quality/lead_free.html for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
 3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
 4. For packaging details, go to our website at <http://www.diodes.com/products/packages.html>.

Marking Information


FZT 855 = Product Type Marking Code
 YWW = Date Code Marking
 Y or \bar{Y} = Last Digit of Year (ex: 5= 2015)
 WW or $\bar{W}W$ = Week Code (01~53)

Absolute Maximum Ratings (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	250	V
Collector-Emitter Voltage	V _{CEO}	150	V
Emitter-Base Voltage	V _{EBO}	7	V
Continuous Collector Current	I _C	5	A
Peak Pulse Current	I _{CM}	10	A
Base Current	I _B	1	A

Thermal Characteristics (@T_A = +25°C, unless otherwise specified.)

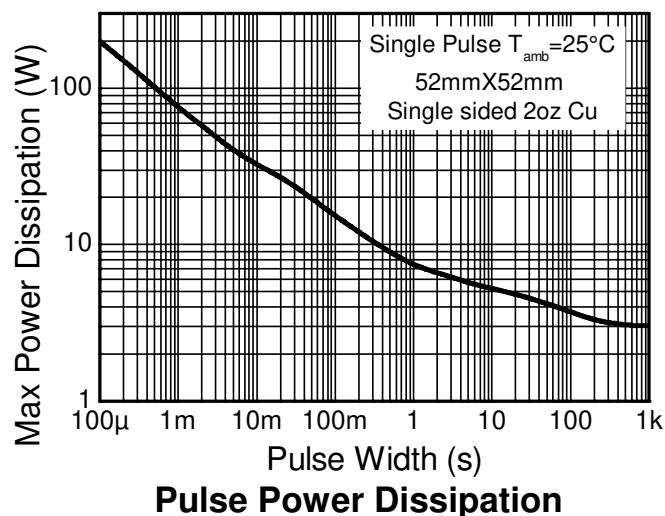
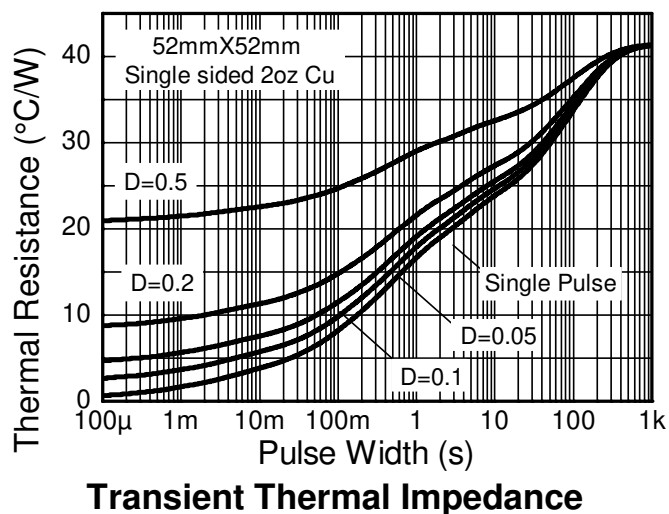
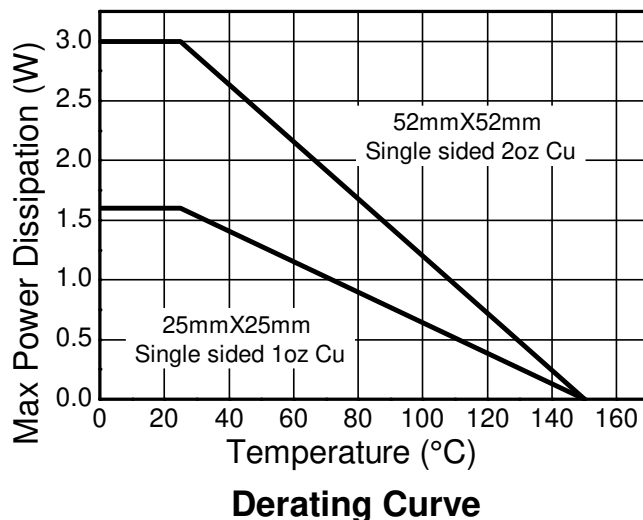
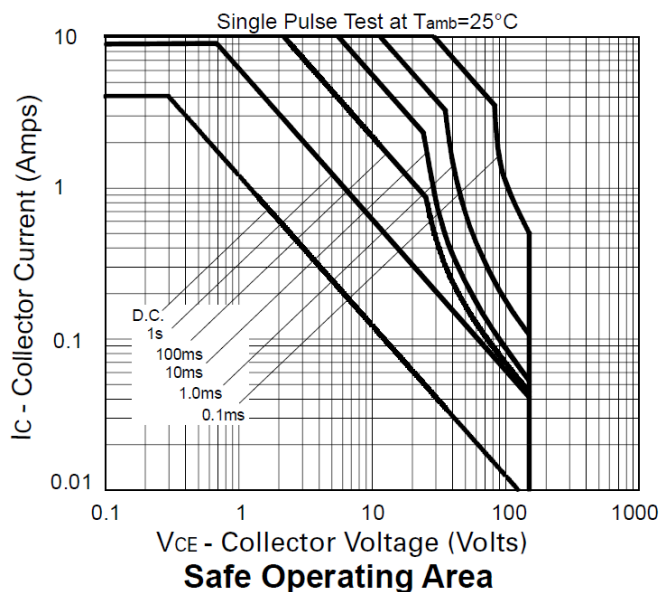
Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	3.0	W
Linear Derating Factor		24	
		1.6	mW/°C
		12.8	
Thermal Resistance, Junction to Ambient	R _{θJA}	42	°C/W
	R _{θJA}	78	
Thermal Resistance Junction to Lead	R _{θJL}	8.8	°C
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	

ESD Ratings (Note 8)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	≥ 8,000	V	3B
Electrostatic Discharge - Machine Model	ESD MM	≥ 400	V	C

- Notes:
5. For a device surface mounted on 52mm X 52mm FR4 PCB with high coverage of single sided 2oz copper, in still air conditions; device measured when operating in steady state condition.
 6. Same as Note 5, except the device is mounted on 25mm X 25mm single sided 1oz weight copper.
 7. Thermal resistance from junction to solder-point (at the end of the collector lead).
 8. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

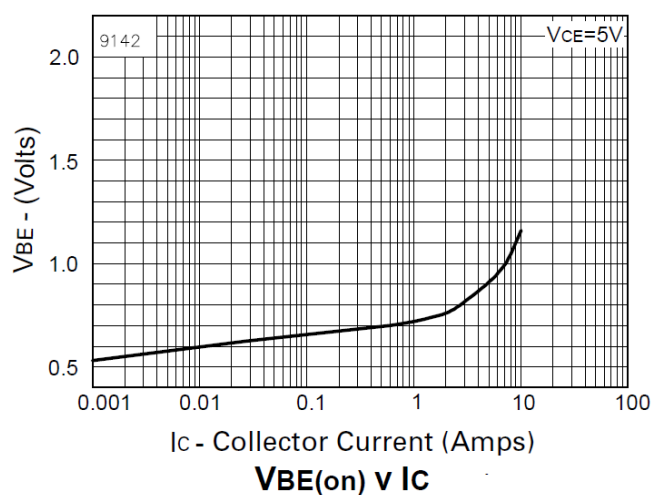
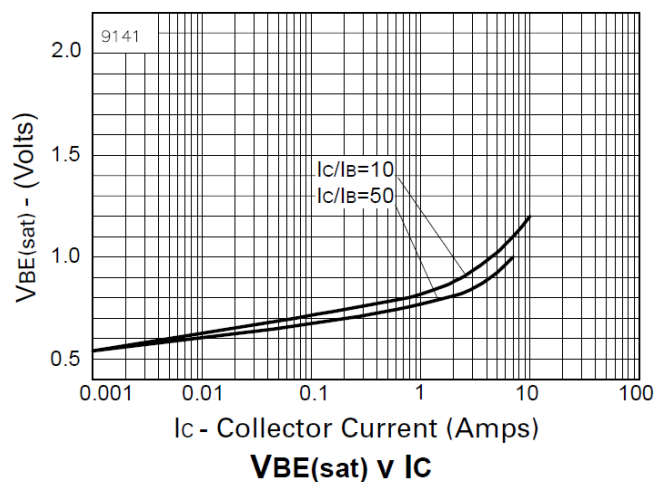
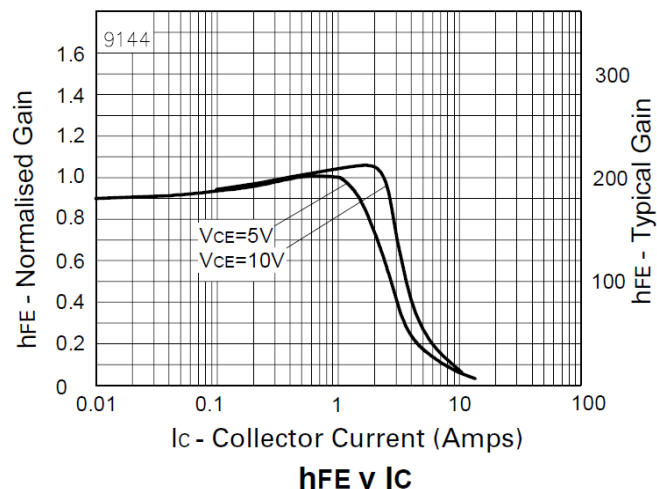
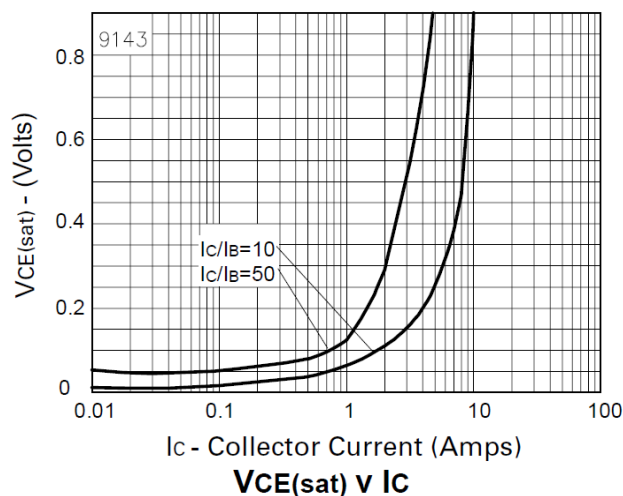


Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV _{CBO}	250	375	–	V	I _C = 100μA
Collector-Emitter Breakdown Voltage	BV _{CER}	250	375	–	V	I _C = 1μA, R _B ≤ 1kΩ
Collector-Emitter Breakdown Voltage (Note 9)	BV _{CEO}	150	180	–	V	I _C = 1mA
Emitter-Base Breakdown Voltage	BV _{EBO}	7	8	–	V	I _E = 100μA
Collector Cut-Off Current	I _{CBO}	–	–	50 1	nA μA	V _{CB} = 200V V _{CB} = 200V, @T _A = +100°C
Collector Cut-Off Current	I _{CER} R ≤ 1kΩ	–	–	50 1	nA μA	V _{CB} = 200V V _{CB} = 200V, @T _A = +100°C
Emitter Cut-Off Current	I _{EBO}	–	–	10	nA	V _{EB} = 6V
Collector-Emitter Saturation Voltage (Note 9)	V _{CE(sat)}	–	20 35 60 260	40 65 110 355	mV	I _C = 100mA, I _B = 5mA I _C = 500mA, I _B = 50mA I _C = 1A, I _B = 100mA I _C = 5A, I _B = 500mA
Base-Emitter Saturation Voltage (Note 9)	V _{BE(sat)}	–	–	1250	mV	I _C = 5A, I _B = 500mA
Base-Emitter Turn-On Voltage (Note 9)	V _{BE(on)}	–	–	1100	mV	I _C = 5A, V _{CE} = 5V
DC Current Gain (Note 9)	h _{FE}	100 100 15	200 200 30 10	– 300 – –		I _C = 10mA, V _{CE} = 5V I _C = 1A, V _{CE} = 5V I _C = 5A, V _{CE} = 5V I _C = 10A, V _{CE} = 5V
Current Gain-Bandwidth Product (Note 9)	f _T	–	90	–	MHz	V _{CE} = 10V, I _C = 100mA f = 50MHz
Output Capacitance (Note 9)	C _{obo}	–	22	–	pF	V _{CB} = 10V, f = 1MHz
Switching Times	t _{on} t _{off}	–	66 2130	–	ns ns	I _C = 1A, V _{CC} = 50V I _{B1} = -I _{B2} = 100mA

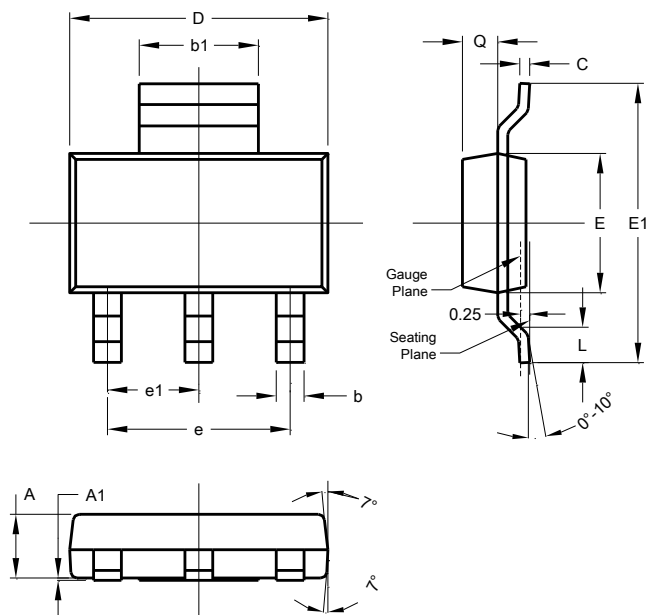
Note: 9. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

Typical Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)



Package Outline Dimensions

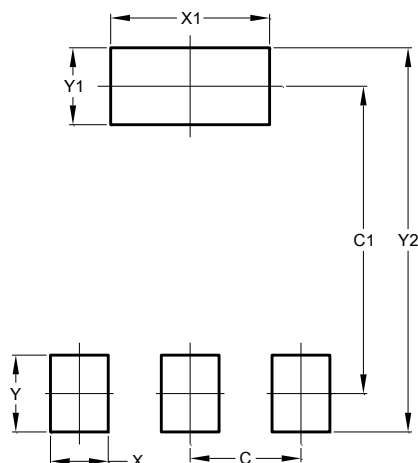
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



SOT223			
Dim	Min	Max	Typ
A	1.55	1.65	1.60
A1	0.010	0.15	0.05
b	0.60	0.80	0.70
b1	2.90	3.10	3.00
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

Please see AP02001 at <http://www.diodes.com/datasheets/ap02001.pdf> for the latest version.



Dimensions	Value (in mm)
C	2.30
C1	6.40
X	1.20
X1	3.30
Y	1.60
Y1	1.60
Y2	8.00

For high voltage applications, the appropriate industry sector guidelines should be considered with regards to creepage and clearance distances between device Terminals and PCB tracking.

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