



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!



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Features

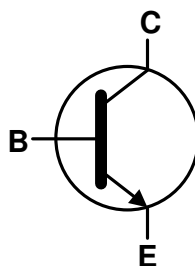
- $BV_{CEO} > 160V$
- $I_C = 600mA$ High Collector Current
- Complementary PNP Type: DXT5401
- Ideal for Medium Power Switching or Amplification Applications
- **Totally Lead-Free & Fully RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**
- **Qualified to AEC-Q101 Standards for High Reliability**

Mechanical Data

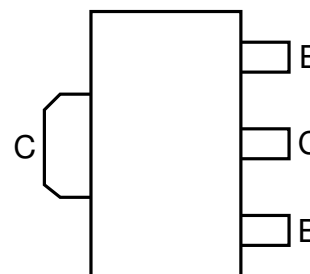
- Case: SOT89
- Case Material: Molded Plastic, "Green" Molding Compound
UL Flammability Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Finish - Matte Tin Plated Leads, Solderable per
MIL-STD-202, Method 208 (B3)
- Weight: 0.052 grams (Approximate)



Top View



Device Symbol



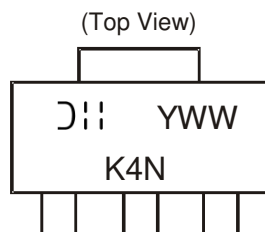
Top View
Pin-Out

Ordering Information (Note 4)

Part Number	Marking	Reel Size (inches)	Tape Width (mm)	Quantity per Reel
DXT5551-13	K4N	13	12	2,500

- Notes:
1. No purposely added lead. Fully EU Directive 2002/95/EC (RoHS) & 2011/65/EU (RoHS 2) compliant.
 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



D11 = Manufacturer's Marking
 K4N = Product Type Marking Code
 YWW = Date Code Marking
 Y = Last Digit of Year (ex: 7 = 2017)
 WW = Week Code (01 to 52)

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	180	V
Collector-Emitter Voltage	V _{CEO}	160	V
Emitter-Base Voltage	V _{EBO}	6	V
Collector Current	I _C	600	mA

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

Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	0.75	W
		1.2	
Thermal Resistance, Junction to Ambient Air	R _{θJA}	166	°C/W
		104	
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 7)

Characteristic	Symbol	Value	Unit	JEDEC Class
Electrostatic Discharge - Human Body Model	ESD HBM	4,000	V	3A
Electrostatic Discharge - Machine Model	ESD MM	400	V	C

- Notes:
5. For a device mounted with the exposed collector pad on minimum recommended pad layout 1oz copper that is on a single-sided 1.6mm FR-4 PCB; device is measured under still air conditions whilst operating in a steady-state.
 6. Same as note 5, except the device is mounted with the exposed collector pad on 25mm x 25mm 1oz copper.
 7. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

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	BV_{CBO}	180	—	—	V	$I_C = 100\mu A$
Collector-Emitter Breakdown Voltage (Note 8)	BV_{CEO}	160	—	—	V	$I_C = 10mA$
Emitter-Base Breakdown Voltage	BV_{EBO}	6.0	—	—	V	$I_E = 100\mu A$
Collector Cut-off Current	I_{CBO}	—	—	50	nA	$V_{CB} = 120V$
				50	μA	$V_{CB} = 120V, T_A = +100^{\circ}C$
Emitter Cut-off Current	I_{EBO}	—	—	50	nA	$V_{EB} = 4V$
ON CHARACTERISTICS (Note 8)						
Static Forward Current Transfer Ratio	h_{FE}	80	—	—	—	$I_C = 1mA, V_{CE} = 5V$
		80		250		$I_C = 10mA, V_{CE} = 5V$
		30		—		$I_C = 50mA, V_{CE} = 5V$
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	—	—	0.15 0.20	V	$I_C = 10mA, I_B = 1mA$ $I_C = 50mA, I_B = 5mA$
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	—	—	1.0	V	$I_C = 10mA, I_B = 1mA$ $I_C = 50mA, I_B = 5mA$
SMALL SIGNAL CHARACTERISTICS						
Transition Frequency	f_T	100	—	300	MHz	$I_C = 10mA, V_{CE} = 10V,$ $f = 100MHz$
Output Capacitance	C_{obo}	—	—	6	pF	$V_{CB} = 10V, I_E = 0, f = 1MHz$
Small Signal Current Gain	h_{fe}	50	—	200	—	$V_{CB} = 10V, I_C = 1mA, f = 1kHz$
Noise Figure	NF	—	—	8	dB	$V_{CB} = 5V, I_C = 200\mu A,$ $R_S = 1k\Omega, f = 1kHz$

 Note: 8. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$.

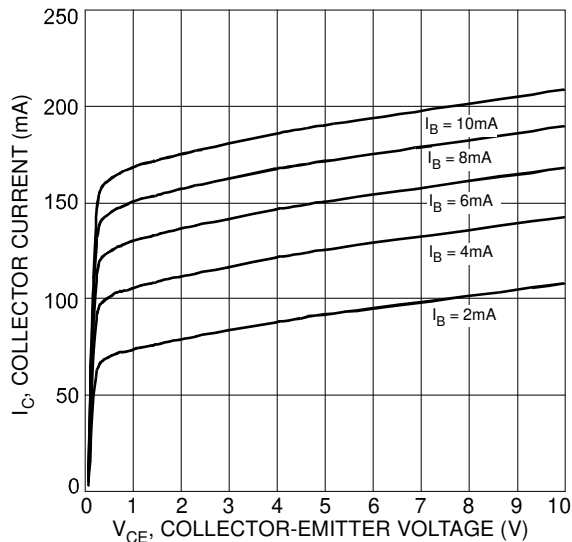
Typical Electrical Characteristics (@ $T_A = +25^\circ\text{C}$, unless otherwise specified.)


Fig.1 Typical Collector Current vs. Collector-Emitter Voltage

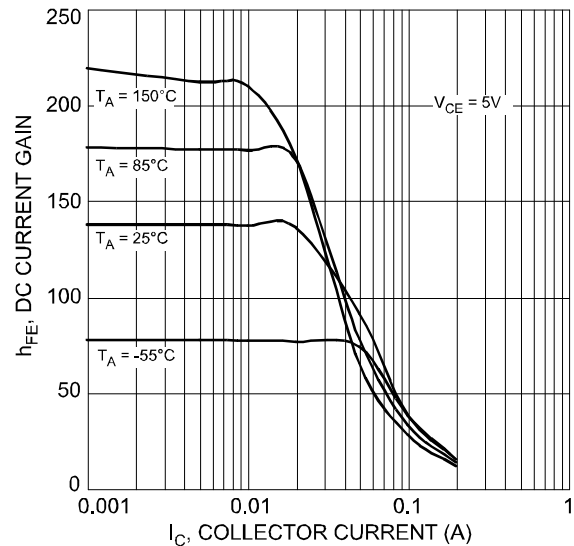


Fig.2 Typical DC Current Gain vs. Collector Current

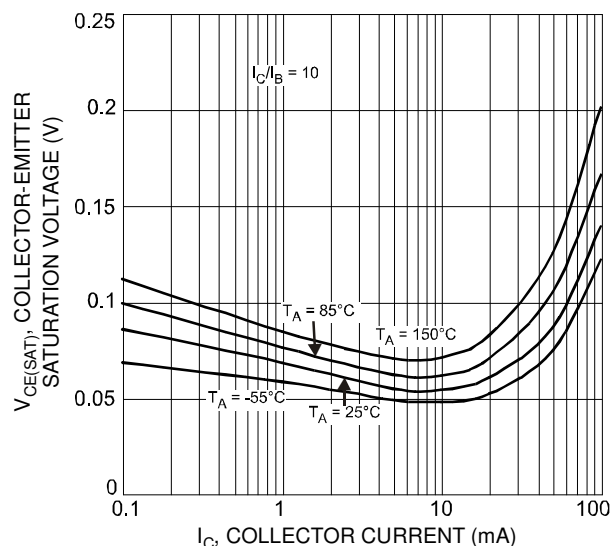


Fig.3 Typical Collector-Emitter Saturation Voltage vs. Collector Current

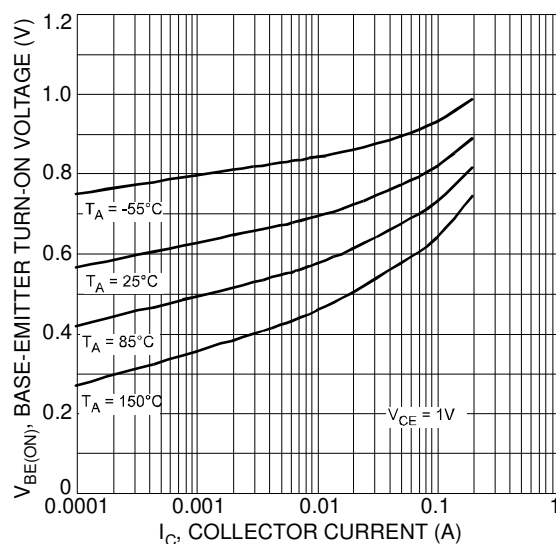


Fig.4 Typical Base-Emitter Turn-On Voltage vs. Collector Current

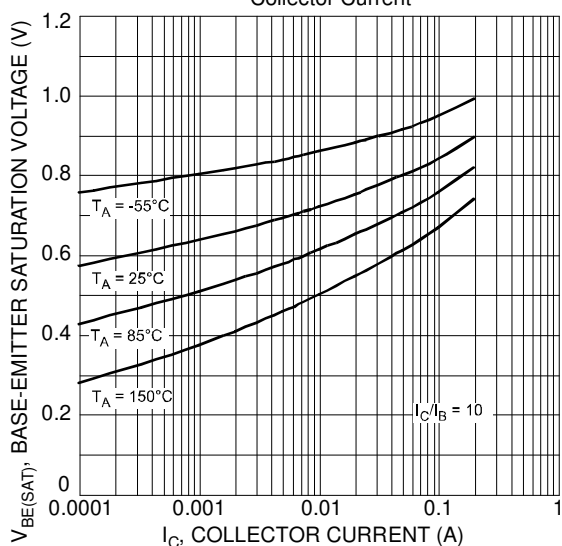


Fig.5 Typical Base-Emitter Saturation Voltage vs. Collector Current

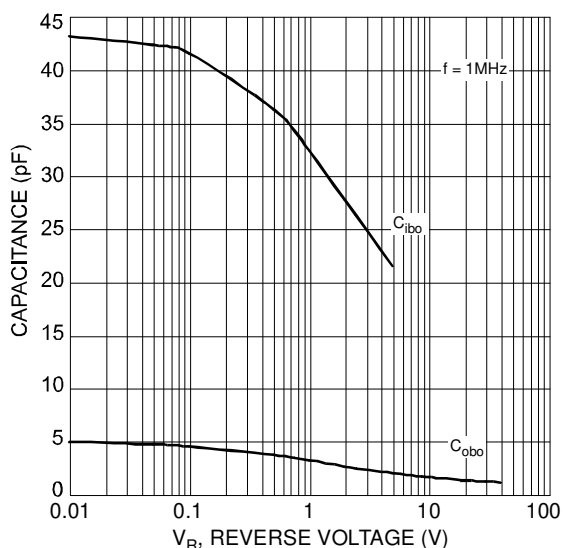


Fig.6 Typical Capacitance Characteristics

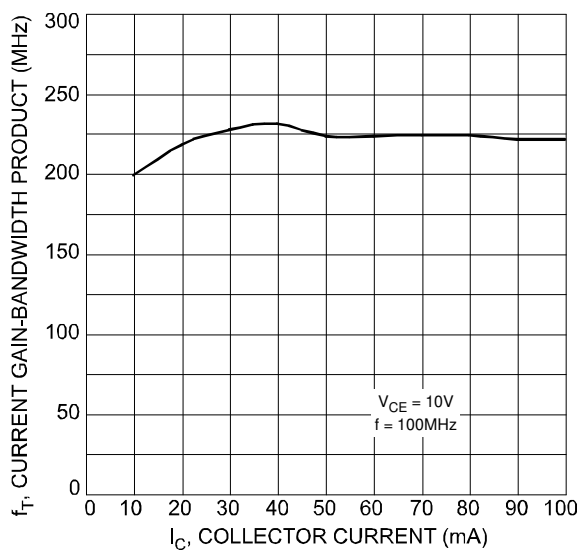
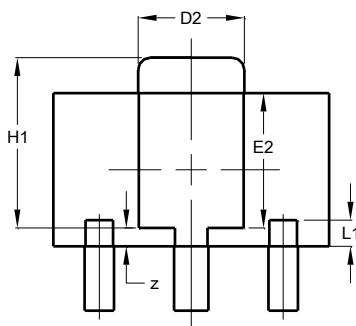
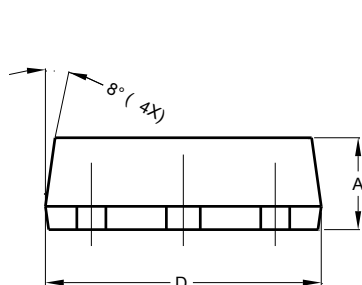
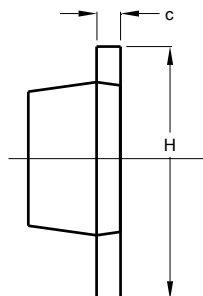
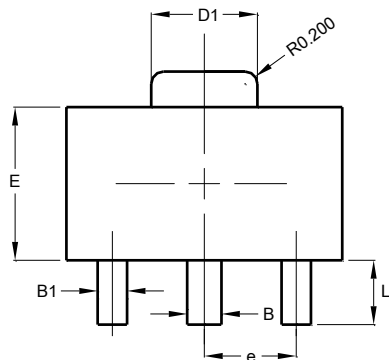


Fig.7 Typical Gain-Bandwidth Product vs. Collector Current

Package Outline Dimensions

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT89

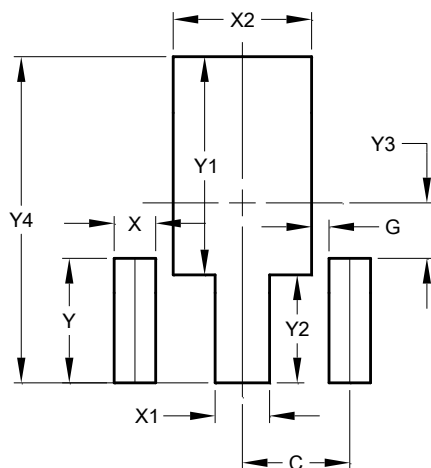


SOT89			
Dim	Min	Max	Typ
A	1.40	1.60	1.50
B	0.50	0.62	0.56
B1	0.42	0.54	0.48
c	0.35	0.43	0.38
D	4.40	4.60	4.50
D1	1.62	1.83	1.733
D2	1.61	1.81	1.71
E	2.40	2.60	2.50
E2	2.05	2.35	2.20
e	-	-	1.50
H	3.95	4.25	4.10
H1	2.63	2.93	2.78
L	0.90	1.20	1.05
L1	0.327	0.527	0.427
z	0.20	0.40	0.30
All Dimensions in mm			

Suggested Pad Layout

Please see <http://www.diodes.com/package-outlines.html> for the latest version.

SOT89



Dimensions	Value (in mm)
C	1.500
G	0.244
X	0.580
X1	0.760
X2	1.933
Y	1.730
Y1	3.030
Y2	1.500
Y3	0.770
Y4	4.530

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