



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.

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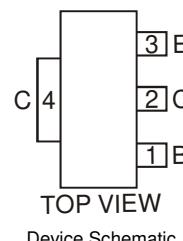
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

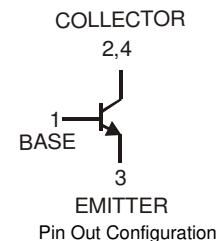
- Epitaxial Planar Die Construction
- Complementary PNP Type Available (DXTA92)
- Ideally Suited for Automated Assembly Processes
- Ideal for Medium Power Switching or Amplification Applications
- Lead Free By Design/RoHS Compliant (Note 1)**
- "Green" Device (Note 2)



Top View



Device Schematic



Pin Out Configuration

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	6	V
Continuous Collector Current	I_C	500	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 3) @ $T_A = 25^\circ\text{C}$	P_D	1	W
Thermal Resistance, Junction to Ambient (Note 3)	R_{JJA}	125	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Typ	Max	Unit	Test Conditions
OFF CHARACTERISTICS (Note 4)						
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	300	—	—	V	$I_C = 100\mu\text{A}, I_E = 0$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	300	—	—	V	$I_C = 1\text{mA}, I_B = 0$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 100\mu\text{A}, I_C = 0$
Collector Cut-off Current	I_{CBO}	—	—	0.1	μA	$V_{CB} = 200\text{V}, I_E = 0$
Emitter Cut-off Current	I_{EBO}	—	—	0.1	μA	$V_{EB} = 6\text{V}, I_C = 0$
ON CHARACTERISTICS (Note 4)						
Collector-Emitter Saturation Voltage	$V_{CE(\text{SAT})}$	—	—	0.5	V	$I_C = 20\text{mA}, I_B = 2\text{mA}$
Base-Emitter Saturation Voltage	$V_{BE(\text{SAT})}$	—	—	0.9	V	$I_C = 20\text{mA}, I_B = 2\text{mA}$
Static Forward Current Transfer Ratio	h_{FE}	25 40 40	—	—	—	$I_C = 1\text{mA}, V_{CE} = 10\text{V}$ $I_C = 10\text{mA}, V_{CE} = 10\text{V}$ $I_C = 30\text{mA}, V_{CE} = 10\text{V}$
SMALL SIGNAL CHARACTERISTICS						
Transition Frequency	f_T	50	—	—	MHz	$I_C = 10\text{mA}, V_{CE} = 20\text{V}, f = 100\text{MHz}$
Output Capacitance	C_{obo}	—	—	3	pF	$V_{CB} = 20\text{V}, f = 1\text{MHz}$

- Notes:
- No purposefully added lead.
 - Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 - Device mounted on FR-4 PCB; pad layout as shown on page 4 or in Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 - Measured under pulsed conditions. Pulse width = 300 μs . Duty cycle $\leq 2\%$.

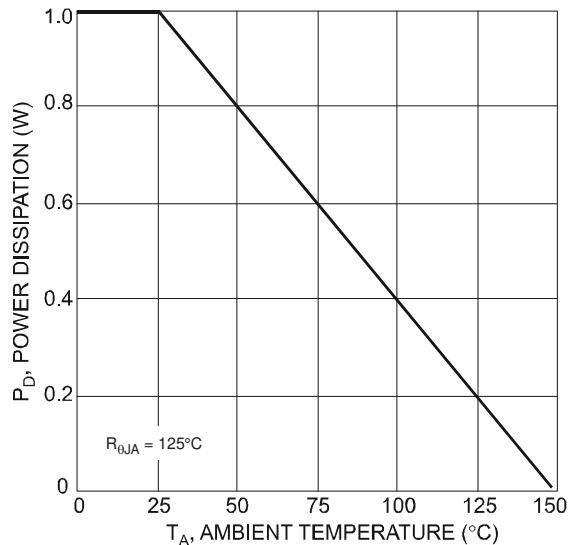


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 3)

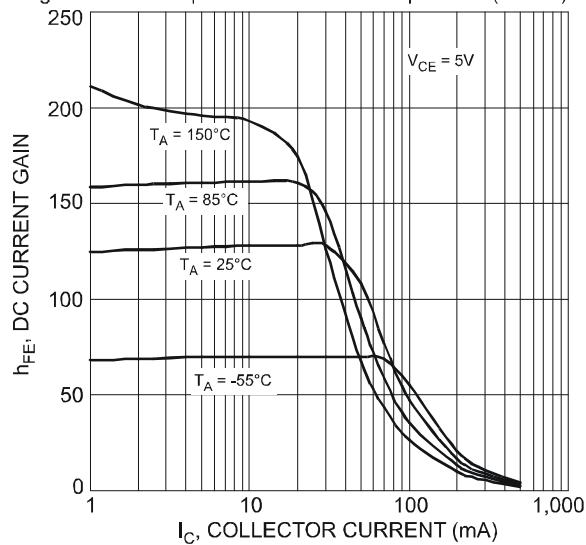


Fig. 3 Typical DC Current Gain vs. Collector Current

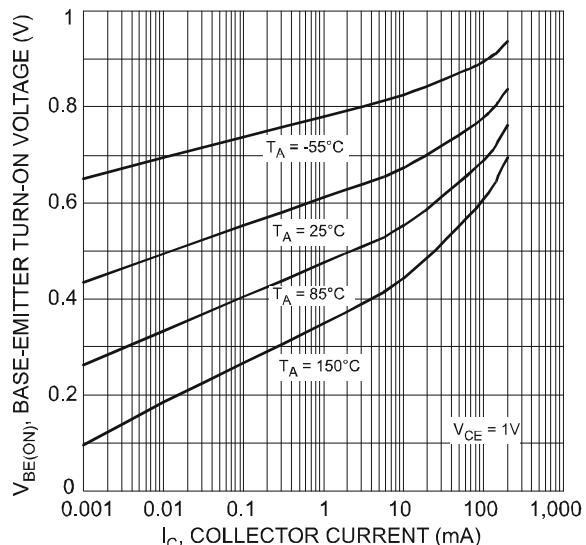


Fig. 5 Base-Emitter Turn-On Voltage vs. Collector Current

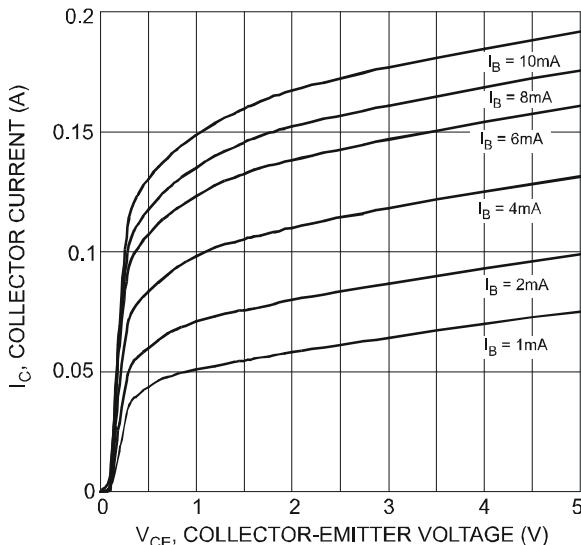


Fig. 2 Collector Current vs. Collector-Emitter Voltage

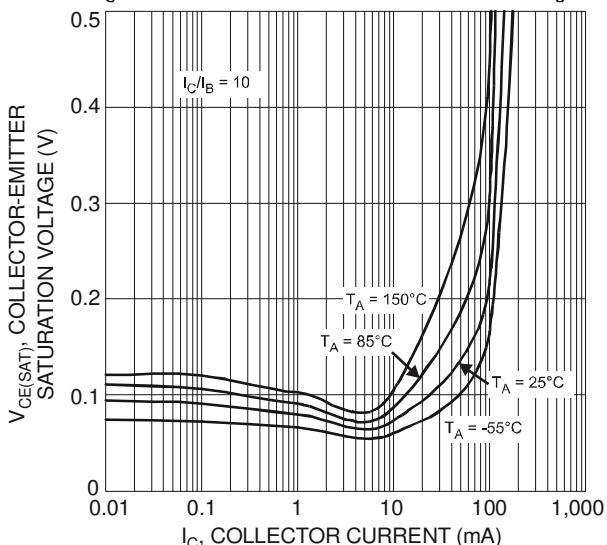


Fig. 4 Collector-Emitter Saturation Voltage vs. Collector Current

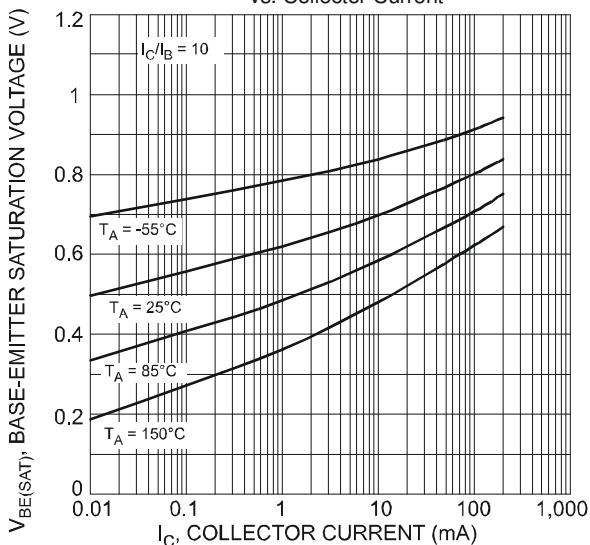


Fig. 6 Base-Emitter Saturation Voltage vs. Collector Current

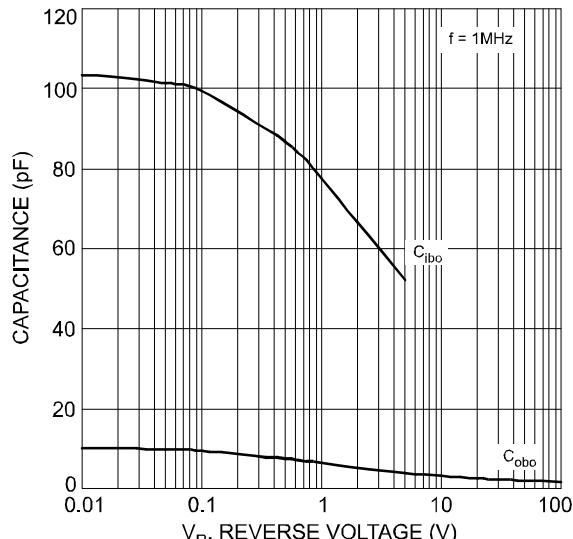


Fig. 7 Typical Capacitance Characteristics

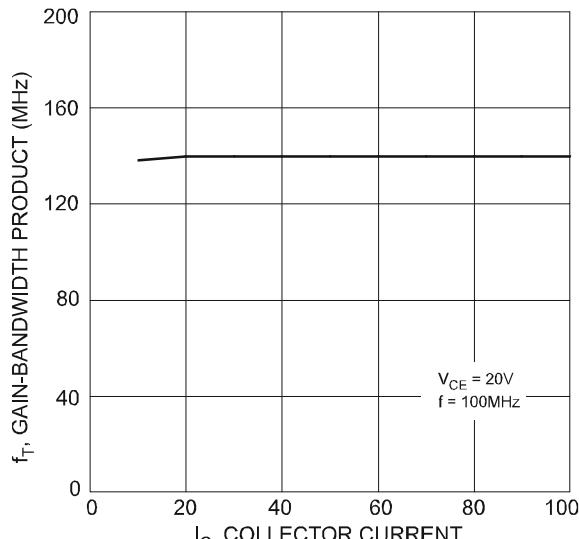


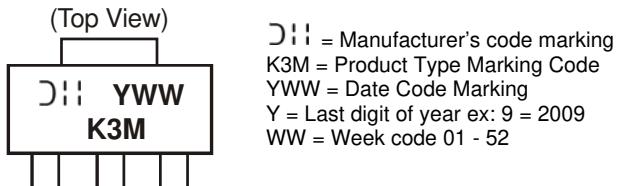
Fig. 8 Gain-Bandwidth Product vs. Collector Current

Ordering Information (Note 5)

Part Number	Case	Packaging
DXTA42-13	SOT89-3L	2500/Tape & Reel

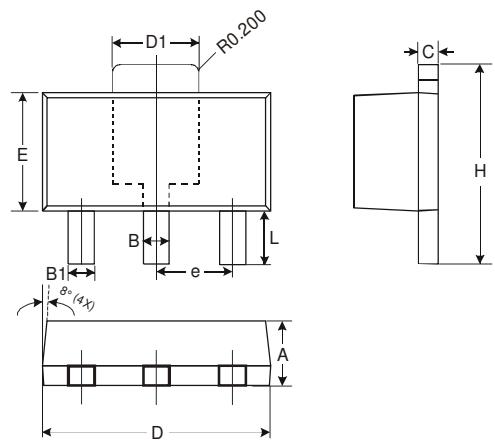
Notes: 5. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



DII = Manufacturer's code marking
 K3M = Product Type Marking Code
 YWW = Date Code Marking
 Y = Last digit of year ex: 9 = 2009
 WW = Week code 01 - 52

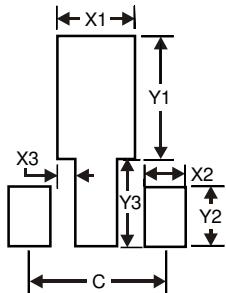
Package Outline Dimensions



SOT89-3L			
Dim	Min	Max	Typ
A	1.40	1.60	1.50
B	0.45	0.55	0.50
B1	0.37	0.47	0.42
C	0.35	0.43	0.38
D	4.40	4.60	4.50
D1	1.50	1.70	1.60
E	2.40	2.60	2.50
e	—	—	1.50
H	3.95	4.25	4.10
L	0.90	1.20	1.05

All Dimensions in mm

Suggested Pad Layout



Dimensions	Value (in mm)
X1	1.7
X2	0.9
X3	0.4
Y1	2.7
Y2	1.3
Y3	1.9
C	3.0

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