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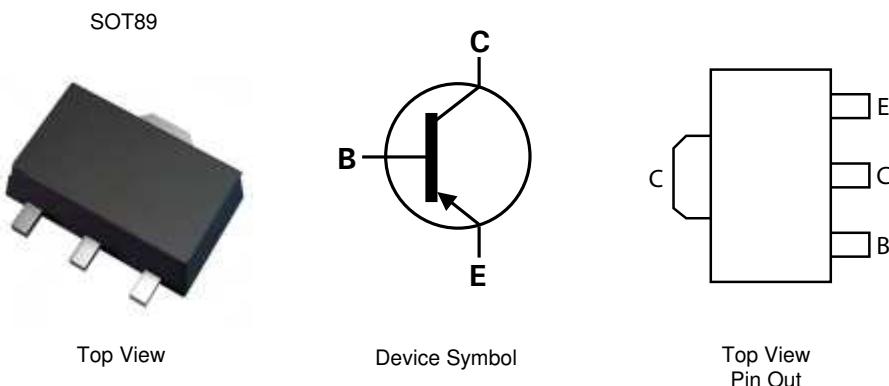
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

Features

- $BV_{CEO} > -120V$
- Max Continuous Current $I_C = -0.8A$
- High Gain Holds up $h_{FE} \geq 120$ @ $I_C = -100mA$
- **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**
- **PPAP capable (Note 4)**

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 
- Weight: 0.05 grams (Approximate)



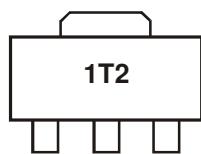
Ordering Information (Notes 4 & 5)

Product	Compliance	Marking	Reel size (inches)	Tape width (mm)	Quantity per reel
2DA1201Y-7	AEC-Q101	1T2	7	12	1,000
2DA1201YQTC	Automotive	1T2	13	12	4,000

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> 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. Automotive products are AEC-Q101 qualified and are PPAP capable. Automotive, AEC-Q101 and standard products are electrically and thermally the same, except where specified.
5. For packaging details, go to our website at <http://www.diodes.com>.

Marking Information



1T2 = Product Type Marking Code

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	-120	V
Collector-Emitter Voltage	V_{CEO}	-120	V
Emitter-Base Voltage	V_{EBO}	-7	V
Continuous Collector Current	I_C	-800	mA
Peak Pulse Current (Note 6)	I_{CM}	-3	A
Base Current	I_B	-160	mA

Thermal Characteristics

Characteristic	Symbol	Value	Unit
Power Dissipation (Note 7)	P_D	1.5	W
Thermal Resistance, Junction to Ambient (Note 7)	$R_{\theta JA}$	83	°C/W
Thermal Resistance, Junction to Leads (Note 8)	$R_{\theta JL}$	18.3	°C/W
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	°C

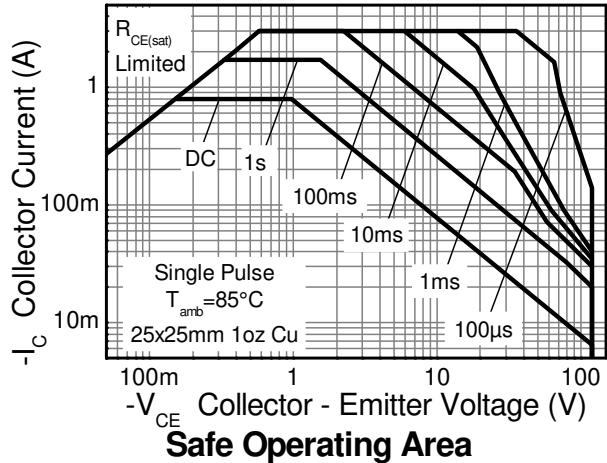
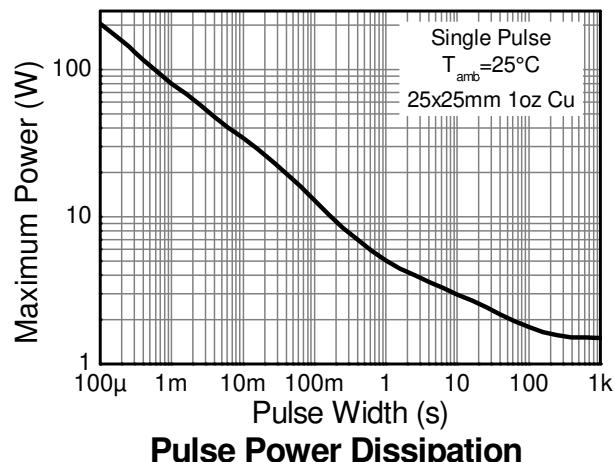
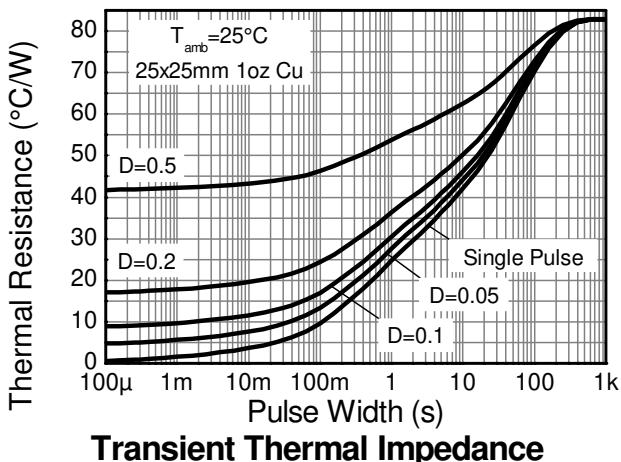
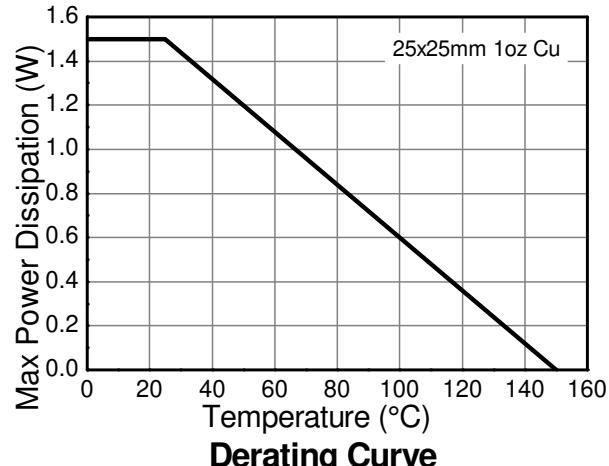
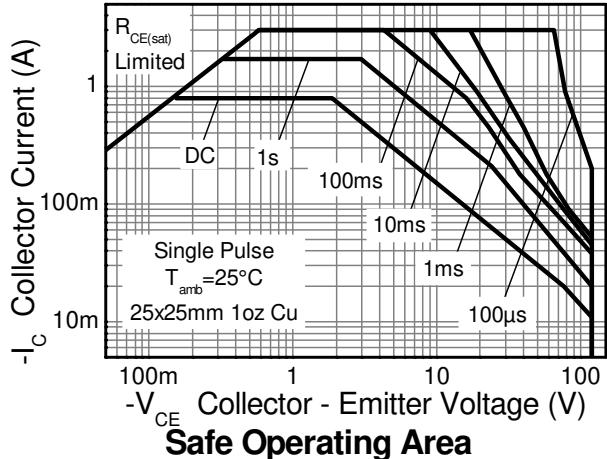
ESD Ratings (Note 9)

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

Notes:

6. Measured under pulsed conditions. Pulse width $\leq 300\mu\text{s}$. Duty cycle $\leq 2\%$.
7. For a device surface mounted on 25mm X 25mm FR4 PCB with high coverage of single sided 1 oz copper, in still air conditions.
8. Thermal resistance from junction to solder-point (at the end of the collector lead).
9. Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

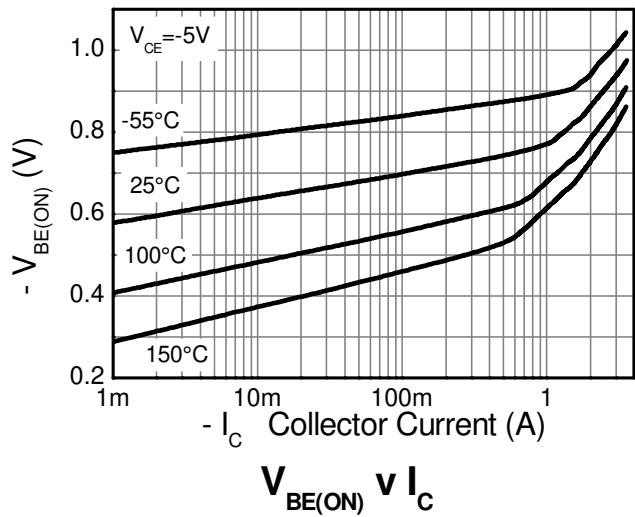
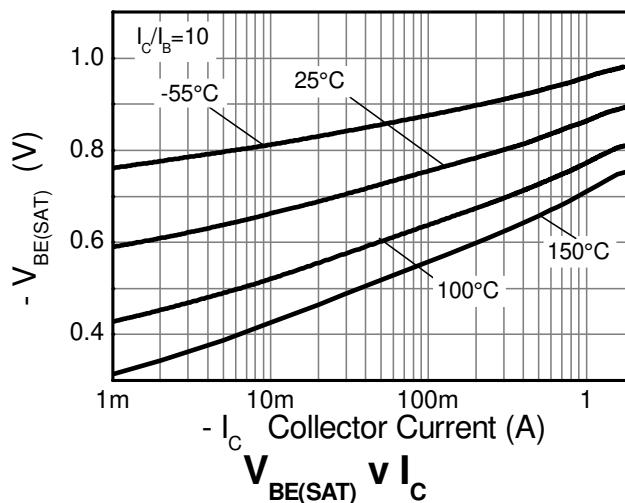
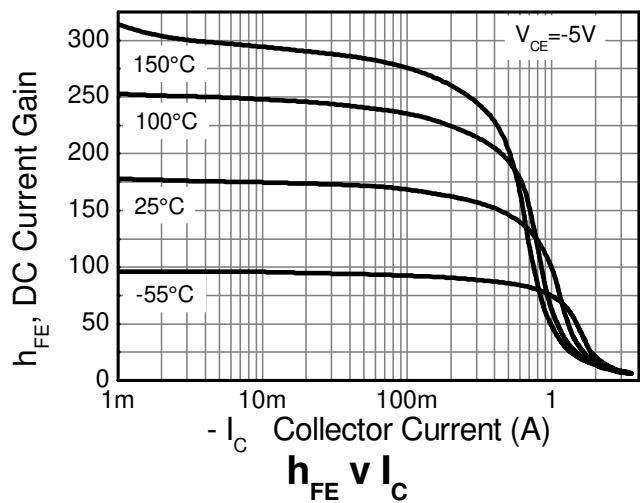
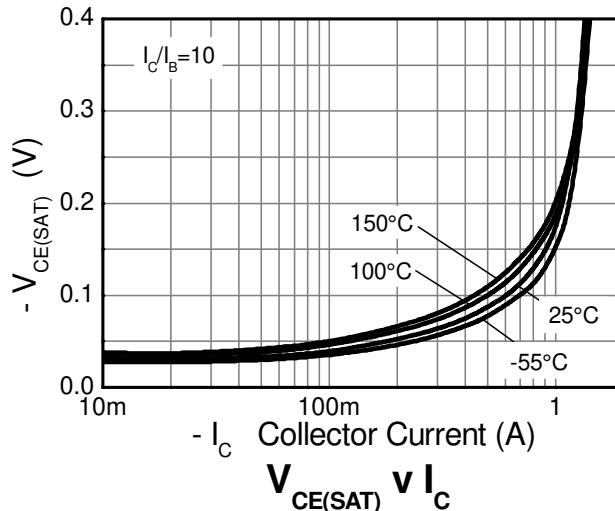
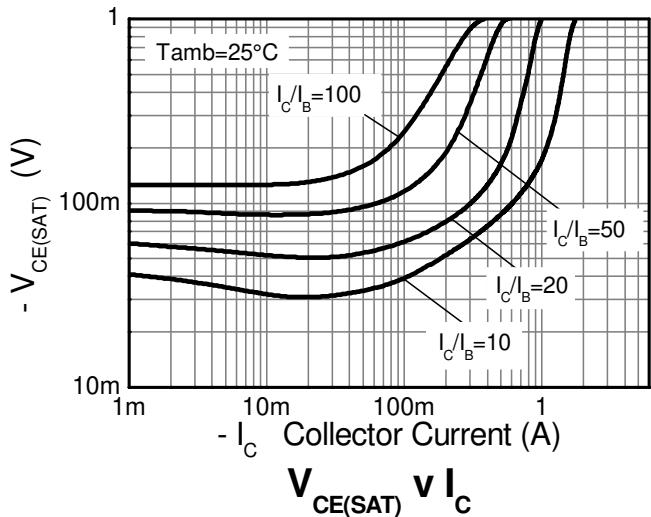


Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV _{CBO}	-120	-	-	V	I _C = -100µA
Collector-Emitter Breakdown Voltage (Note 10)	BV _{CEO}	-120	-	-	V	I _C = -10mA
Emitter-Base Breakdown Voltage	BV _{EBO}	-7	-	-	V	I _E = -100µA
Collector-Emitter Cut-off Current	I _{CES}	-	-	-100	nA	V _{CE} = -120V
Collector Cut-off Current	I _{CBO}	-	-	-100	nA	V _{CB} = -120V
Emitter Cut-off Current	I _{EBO}	-	-	-100	nA	V _{EB} = -5V
Static Forward Current Transfer Ratio (Note 10)	h _{FE}	120	-	240	-	I _C = -100mA, V _{CE} = -5V
Collector-Emitter Saturation Voltage (Note 10)	V _{CE(sat)}	-	-	-1	V	I _C = -500mA, I _B = -50mA
Base-Emitter Turn-On Voltage (Note 10)	V _{BE(on)}	-	-	-1	V	I _C = -500mA, V _{CE} = -5V
Transition Frequency	f _T	-	160	-	MHz	I _C = -100mA, V _{CE} = -5V
Output Capacitance	C _{BO}		15		pF	V _{CB} = -10V, I _E = 0, f = 1MHz
Delay Time	t _(d)	-	62	-	ns	
Rise Time	t _(r)	-	50	-	ns	
Storage Time	t _(s)	-	440	-	ns	V _{CC} = -80V, I _C = -100mA, I _{B1} = -10mA, I _{B2} = 20mA
Fall Time	t _(f)	-	42	-	ns	

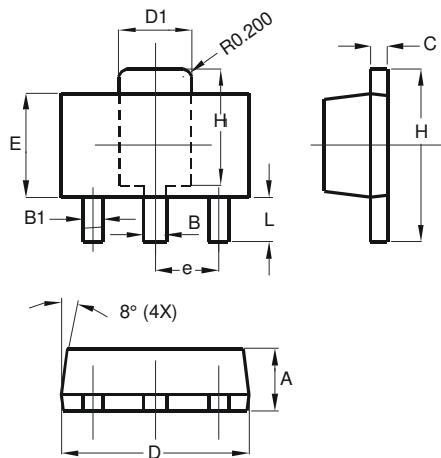
Note: 10. Measured under pulsed conditions. Pulse width ≤ 300µs. Duty cycle ≤ 2%.

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



Package Outline Dimensions

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

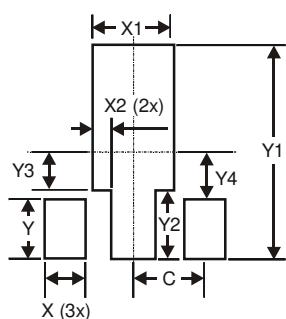


SOT89		
Dim	Min	Max
A	1.40	1.60
B	0.44	0.62
B1	0.35	0.54
C	0.35	0.44
D	4.40	4.60
D1	1.62	1.83
E	2.29	2.60
e	1.50 Typ	
H	3.94	4.25
H1	2.63	2.93
L	0.89	1.20

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)
X	0.900
X1	1.733
X2	0.416
Y	1.300
Y1	4.600
Y2	1.475
Y3	0.950
Y4	1.125
C	1.500

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