

## Absolute Maximum Ratings (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V <sub>CBO</sub>	300	V
Collector-Emitter Voltage	V <sub>CEO</sub>	300	V
Emitter-Base Voltage	V <sub>EBO</sub>	7	V
Continuous Collector Current	I <sub>C</sub>	0.5	A
Peak Pulse Collector Current	I <sub>CM</sub>	0.75	A

## Thermal Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

Characteristic	Symbol	Value	Unit
Power Dissipation @T <sub>C</sub> = +25°C	P <sub>D</sub>	15	W
Power Dissipation @T <sub>A</sub> = +25°C (Note 5)		1.56	
Thermal Resistance, Junction to Case	R <sub>θJC</sub>	8.33	°C/W
Thermal Resistance, Junction to Ambient Air	R <sub>θJA</sub>	80	
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C

## ESD Ratings (Note 6)

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:
- For a device mounted on FR-4 PCB with minimum recommended pad layout.
  - Refer to JEDEC specification JESD22-A114 and JESD22-A115.

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

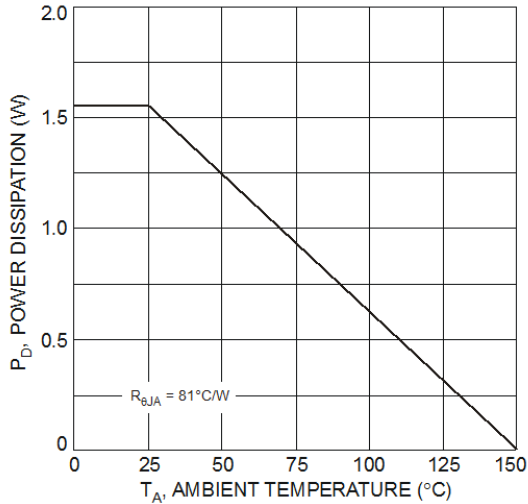


Fig. 1 Power Dissipation vs. Ambient Temperature (Note 5)

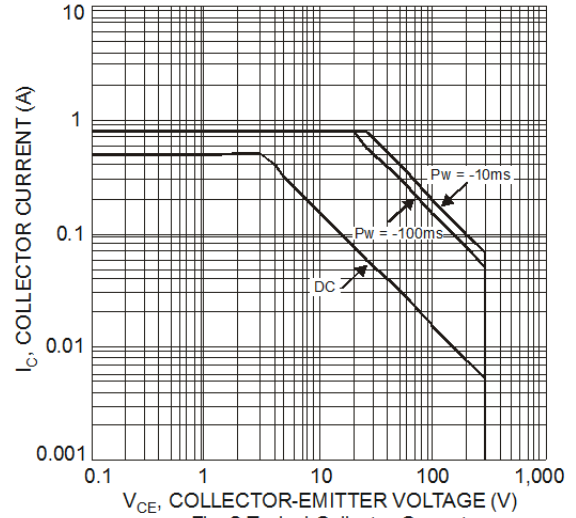


Fig. 2 Typical Collector Current vs. Collector-Emitter Voltage (Note 5)

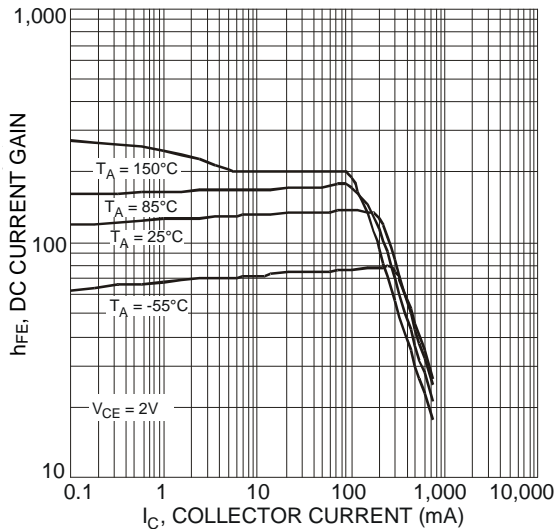


Fig. 3 Typical DC Current Gain vs. Collector Current

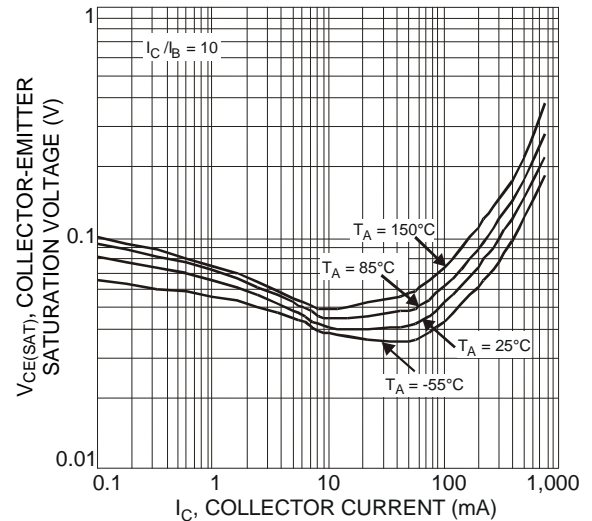


Fig. 4 Typical Collector-Emitter Saturation Voltage vs. Collector Current

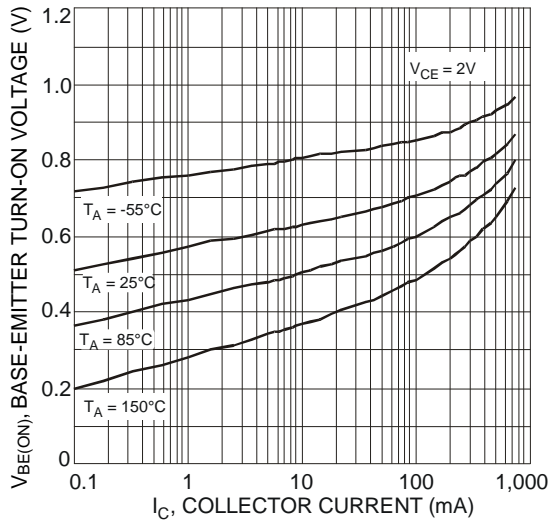


Fig. 5 Typical Base-Emitter Turn-On Voltage vs. Collector Current

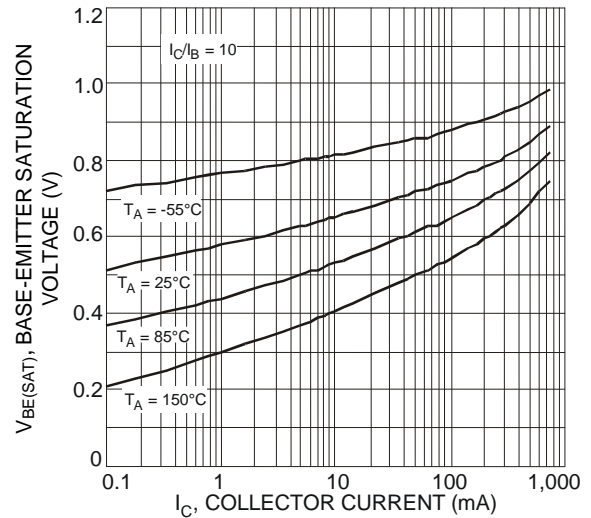


Fig. 6 Typical Base-Emitter Saturation Voltage vs. Collector Current

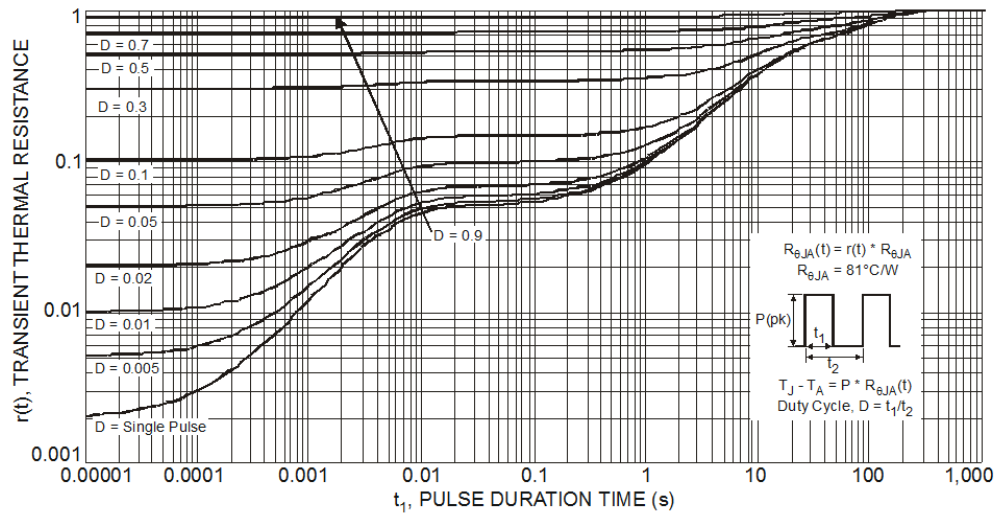


Fig. 7 Transient Thermal Response (Note 5)

## Electrical Characteristics (@T<sub>A</sub> = +25°C, unless otherwise specified.)

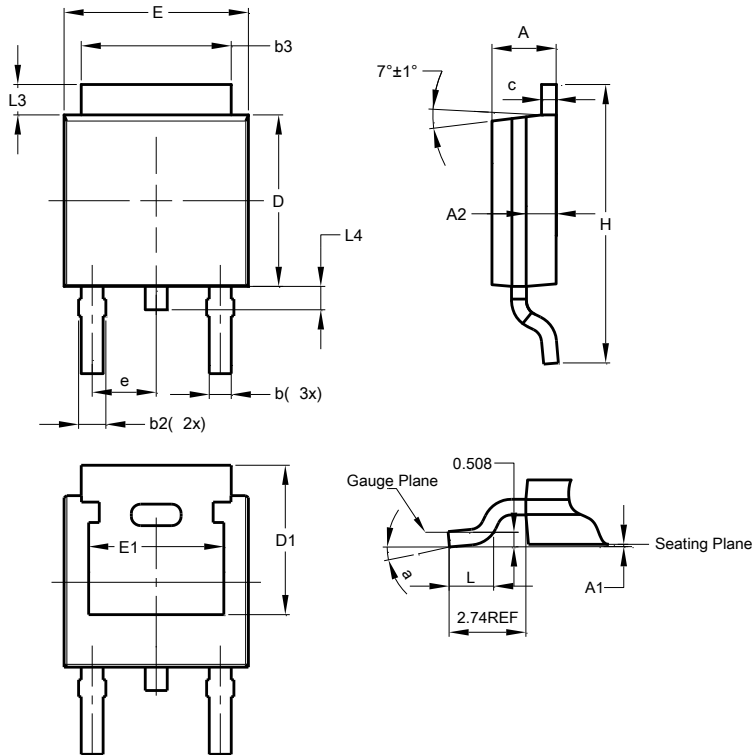
Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Emitter Breakdown Voltage (Note 7)	BV <sub>CEO</sub>	300	—	—	V	I <sub>C</sub> = 1mA
Emitter-Base Breakdown Voltage	BV <sub>EBO</sub>	7	—	—	V	I <sub>C</sub> = 100μA
Collector Cut-off Current	I <sub>CBO</sub>	—	—	100	nA	V <sub>CB</sub> = 300V
Emitter Cut-off Current	I <sub>EBO</sub>	—	—	100	nA	V <sub>EB</sub> = 5.6V
Collector-Emitter Saturation Voltage (Note 7)	V <sub>CE(SAT)</sub>	—	—	0.5	V	I <sub>C</sub> = 100mA, I <sub>B</sub> = 10mA
Base-Emitter Saturation Voltage (Note 7)	V <sub>BE(SAT)</sub>	—	—	1.0	V	I <sub>C</sub> = 100mA, I <sub>B</sub> = 10mA
Base-Emitter Turn-On Voltage (Note 7)	V <sub>BE(ON)</sub>	—	—	1.0	V	I <sub>C</sub> = 100mA, V <sub>CE</sub> = 5V
DC Current Gain (Note 7)	h <sub>FE</sub>	30	—	240	—	V <sub>CE</sub> = 10V, I <sub>C</sub> = 50mA
Current Gain-Bandwidth Product	f <sub>T</sub>	10	—	—	MHz	I <sub>C</sub> = 50mA, V <sub>CE</sub> = 10V, f = 10MHz

Notes: 7. Measured under pulsed conditions. Pulse width ≤ 300μs. Duty cycle ≤ 2%.

## Package Outline Dimensions

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

### TO252 (DPAK)

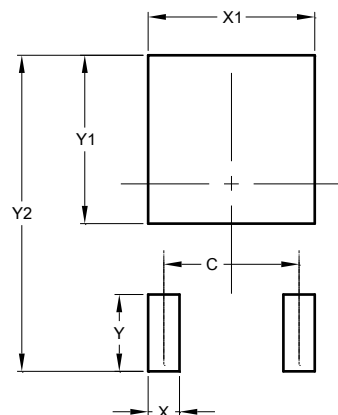


TO252 (DPAK)			
Dim	Min	Max	Typ
A	2.19	2.39	2.29
A1	0.00	0.13	0.08
A2	0.97	1.17	1.07
b	0.64	0.88	0.783
b2	0.76	1.14	0.95
b3	5.21	5.46	5.33
c	0.45	0.58	0.531
D	6.00	6.20	6.10
D1	5.21	-	-
e	-	-	2.286
E	6.45	6.70	6.58
E1	4.32	-	-
H	9.40	10.41	9.91
L	1.40	1.78	1.59
L3	0.88	1.27	1.08
L4	0.64	1.02	0.83
a	0°	10°	-
All Dimensions in mm			

## Suggested Pad Layout

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

### TO252 (DPAK)



Dimensions	Value (in mm)
C	4.572
X	1.060
X1	5.632
Y	2.600
Y1	5.700
Y2	10.700

Note: 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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