

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

Characteristic	Symbol	Value	Unit
Collector-Base Voltage	V _{CBO}	200	V
Collector-Emitter Voltage	V _{CEO}	100	V
Emitter-Base Voltage	V _{EBO}	7	V
Continuous Collector Current	I _C	6	A
Peak Pulse Current	I _{CM}	10	A

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

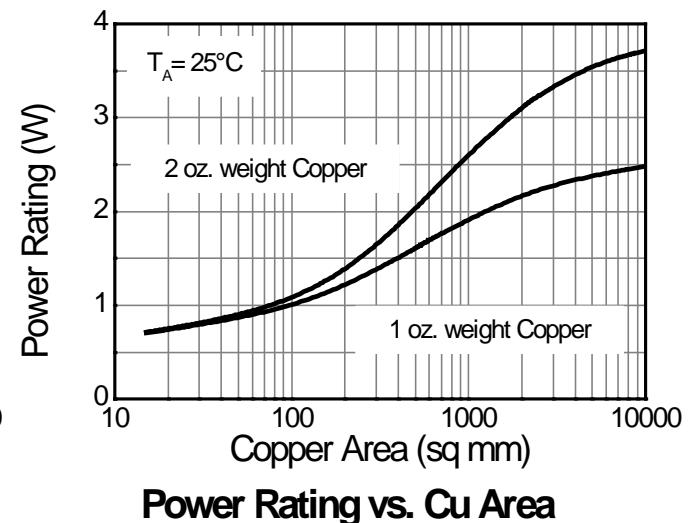
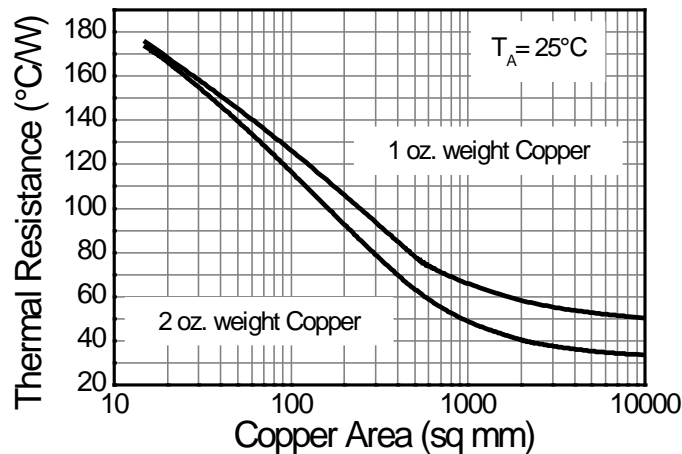
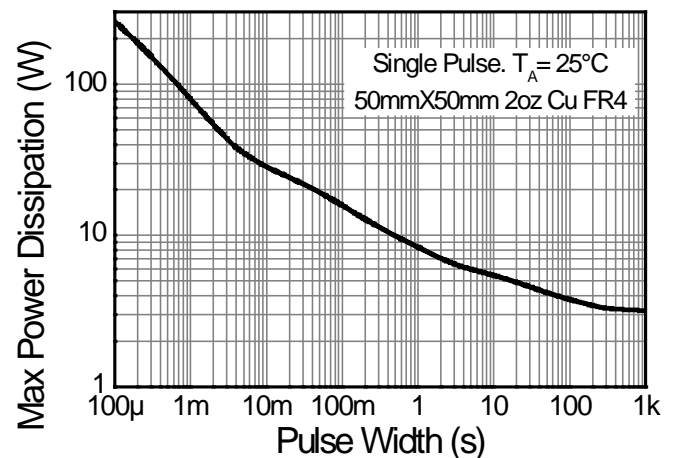
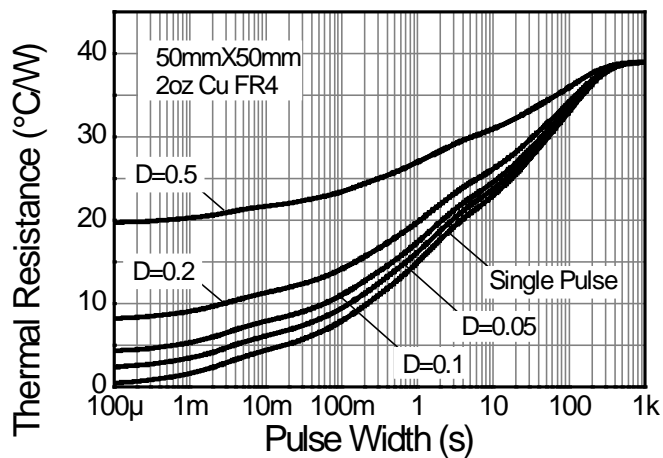
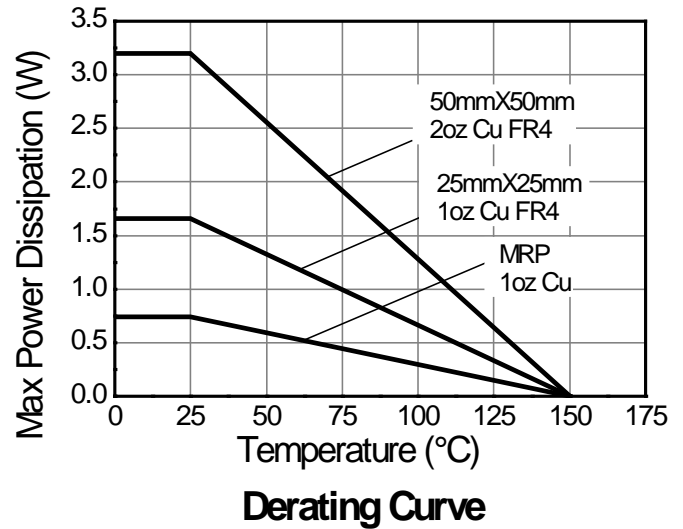
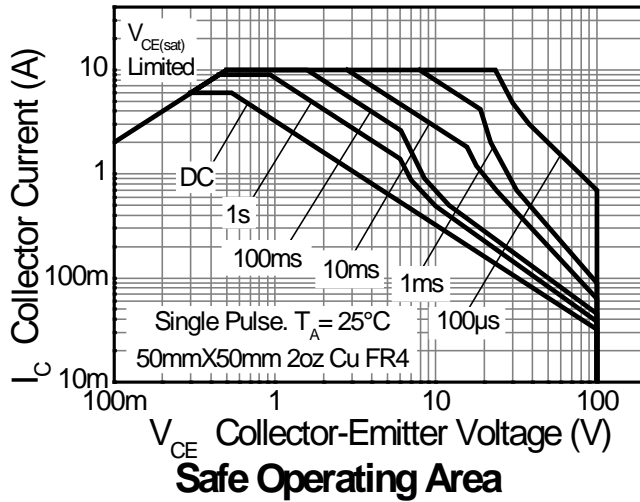
Characteristic	Symbol	Value	Unit
Power Dissipation	P _D	3.2	W
		1.7	
		0.74	
Thermal Resistance, Junction to Ambient Air	R _{θJA}	39	°C/W
		75	
		169	
Thermal Resistance, Junction to Leads	R _{θJL}	5.6	
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

ESD Ratings (Note 9)

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

- Notes:
- For a device mounted with the exposed collector pad on 50mm x 50mm 2oz copper that is on a single-sided 1.6mm FR4 PCB; device is measured under still air conditions whilst operating in a steady-state.
 - Same as note (5), except mounted on 25mm x 25mm 1oz copper.
 - Same as note (5), except mounted on minimum recommended pad (MRP) layout.
 - Thermal resistance from junction to solder-point (on the exposed collector pad).
 - Refer to JEDEC specification JESD22-A114 and JESD22-A115.

Thermal Characteristics and Derating Information

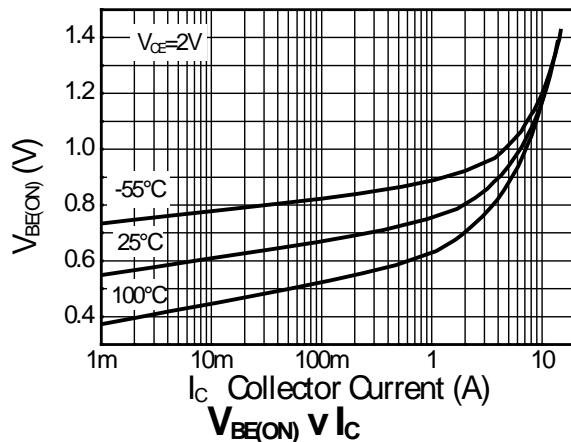
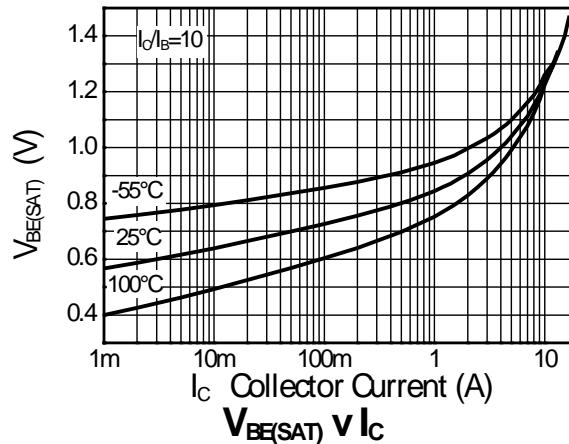
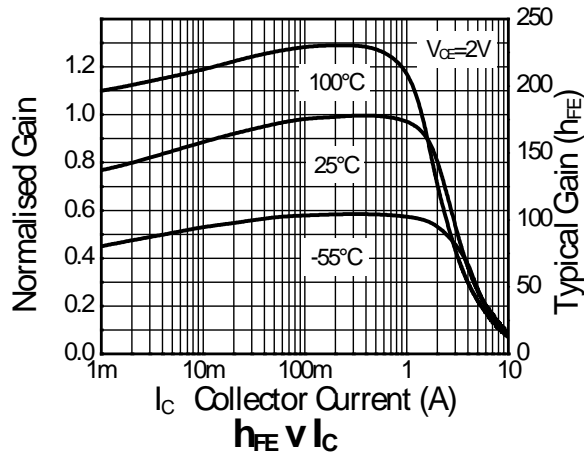
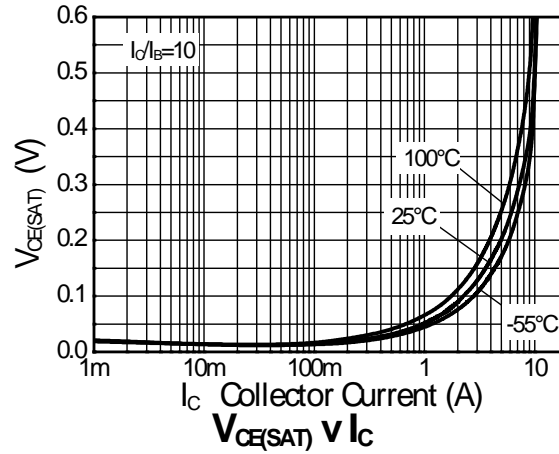
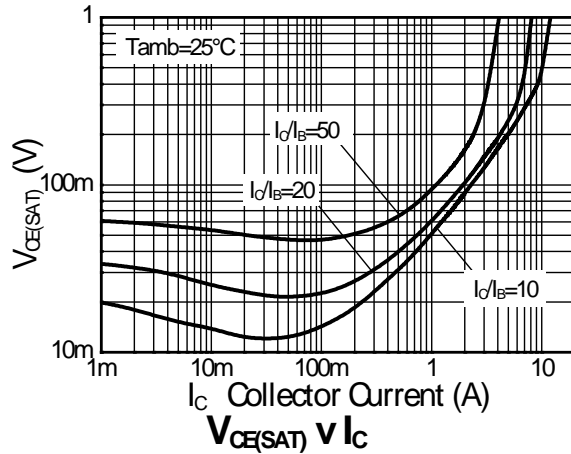


Electrical Characteristics (@T_A = +25°C, unless otherwise specified.)

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Collector-Base Breakdown Voltage	BV _{CBO}	200	235	—	V	I _C = 100μA
Collector-Emitter Breakdown Voltage (Note 10)	BV _{CEO}	100	115	—	V	I _C = 10mA
Emitter-Base Breakdown Voltage	BV _{EBO}	7	8.1	—	V	I _E = 100 μA
Collector Cutoff Current	I _{CBO}	—	—	20 0.5	nA μA	V _{CB} = 150V V _{CB} = 150V, T _{AMB} = 100°C
Collector Cutoff Current	I _{CER} R≤1kΩ	—	—	20 0.5	nA μA	V _{CB} = 150V V _{CB} = 150V, T _{AMB} = 100°C
Emitter Cutoff Current	I _{EBO}	—	—	10	nA	V _{EB} = 6V
Collector-Emitter Saturation Voltage (Note 10)	V _{CE(sat)}	—	21 50 95 180	35 65 125 220	mV	I _C = 0.1A, I _B = -5mA I _C = 1A, I _B = 100mA I _C = 2A, I _B = 100mA I _C = 5A, I _B = 500mA
Base-Emitter Saturation Voltage (Note 10)	V _{BE(sat)}	—	1020	1120	mV	I _C = 5A, I _B = 500mA
Base-Emitter Turn-On Voltage (Note 10)	V _{BE(on)}	—	920	1000	mV	V _{CE} = 2V, I _C = 5A
DC Current Gain (Note 10)	h _{FE}	100 100 30 10	— — — —	— 300 — —	— — — —	V _{CE} = 2V, I _C = 10mA V _{CE} = 2V, I _C = 2A V _{CE} = 2V, I _C = 5A V _{CE} = 2V, I _C = 10A
Transition Frequency	f _T	—	130	—	MHz	V _{CE} = 10V, I _C = 100mA, f = 50MHz
Output Capacitance	C _{obo}	—	26	—	pF	V _{CB} = 10V, f = 1MHz
Switching Times	t _{on} t _{off}	— —	41 1010	— —	ns	V _{CC} = 10V, I _C = 1A, I _{B1} = I _{B2} = 100mA

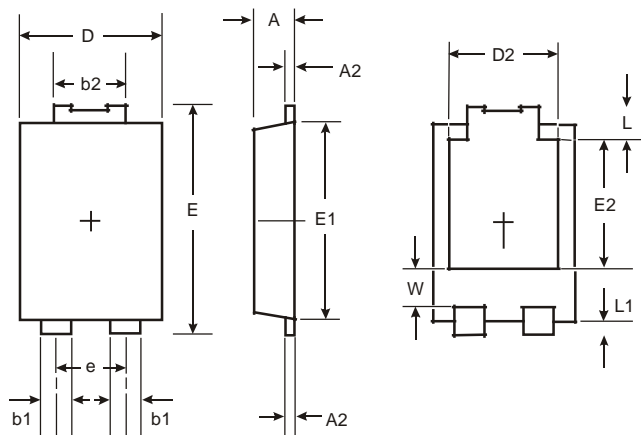
Note: 10. Pulse Test: Pulse width ≤ 300μs. Duty cycle ≤ 2.0%.

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



Package Outline Dimensions

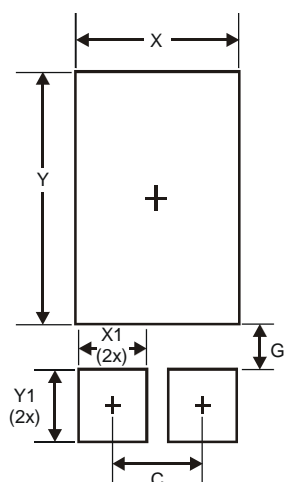
Please see AP02002 at <http://www.diodes.com/datasheets/ap02002.pdf> for the latest version.



POWERDI5		
Dim	Min	Max
A	1.05	1.15
A2	0.33	0.43
b1	0.80	0.99
b2	1.70	1.88
D	3.90	4.05
D2	3.054 Typ	
E	6.40	6.60
e	1.84 Typ	
E1	5.30	5.45
E2	3.549 Typ	
L	0.75	0.95
L1	0.50	0.65
W	1.10	1.41
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	1.840
G	0.852
X	3.360
X1	1.390
Y	4.860
Y1	1.400

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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