

ULTRAFAST SWITCHING SILICON PIN DIODES

Description

For ultrafast switching, these passivated mesa diodes have a thin I layer (< 10 μm).

Electrical characteristics

| CHIP DIODES | | CHIP AND PACKAGED DIODES | | | | | | PACKAGED DIODES | | | |
|-------------------------|----------|--------------------------|-----------------------------------|------|---------------------------------------|---|---|-----------------|------------------------------------|------------------------------------|------|
| Characteristics at 25°C | Gold dia | Breakdown voltage | Junction capacitance | | Series resistance | Minority carrier lifetime | Reverse switching time | | | Thermal resistance | |
| | ∅ | V _{BR} | C _j | | R _{SF} | τ _I | T _{CR} | | | R _{th} | |
| Test conditions | | I _R = 10 μA | V _R = 6 V f = 1 MHz | | I _F = 10 mA f = 120 MHz | I _F = 10 mA I _R = 6 mA | I _F = 20 mA V _R = 10 V 50 Ω | | | P _{diss} 1 W F 27 d | |
| Type | μm | V | pF | | Ω | ns | ns | Type | Standard cases (1) | | °C/W |
| Case C2a (1) | typ. | min. | typ. | max | max | typ. | typ. | | C _b = 0.18 pF (2) | C _b = 0.12 pF (2) | max |
| EH50033 | 25 | 30 | 0.08 | 0.12 | 1.8 | 20 | 2.0 | DH50033 | F27d | M208 | 80 |
| EH50034 | 30 | 30 | 0.12 | 0.17 | 1.5 | 20 | 2.0 | DH50034 | F27d | M208 | 80 |
| EH50035 | 35 | 30 | 0.17 | 0.23 | 1.0 | 25 | 2.5 | DH50035 | F27d | M208 | 70 |
| EH50036 | 55 | 30 | 0.23 | 0.40 | 0.9 | 30 | 3.0 | DH50036 | F27d | M208 | 60 |
| EH50037 | 65 | 30 | 0.40 | 0.60 | 0.7 | 40 | 4.0 | DH50037 | F27d | M208 | 50 |
| EH50052 | 30 | 50 | 0.06 | 0.08 | 1.6 | 30 | 3.0 | DH50052 | F27d | M208 | 80 |
| EH50053 | 35 | 50 | 0.08 | 0.12 | 1.4 | 30 | 3.0 | DH50053 | F27d | M208 | 70 |
| EH50054 | 40 | 50 | 0.12 | 0.17 | 1.1 | 35 | 4.0 | DH50054 | F27d | M208 | 60 |
| EH50055 | 50 | 50 | 0.17 | 0.23 | 1.0 | 40 | 4.0 | DH50055 | F27d | M208 | 50 |
| EH50056 | 65 | 50 | 0.23 | 0.40 | 0.9 | 50 | 5.0 | DH50056 | F27d | M208 | 45 |
| EH50057 | 80 | 50 | 0.40 | 0.60 | 0.7 | 60 | 6.0 | DH50057 | F27d | M208 | 45 |
| EH50071 | 35 | 70 | 0.04 | 0.06 | 2.0 | 50 | 5.0 | DH50071 | F27d | M208 | 70 |
| EH50072 | 40 | 70 | 0.06 | 0.08 | 1.7 | 50 | 5.0 | DH50072 | F27d | M208 | 70 |
| EH50073 | 45 | 70 | 0.08 | 0.12 | 1.6 | 60 | 6.0 | DH50073 | F27d | M208 | 60 |
| EH50074 | 50 | 70 | 0.12 | 0.17 | 1.4 | 60 | 6.0 | DH50074 | F27d | M208 | 50 |
| EH50075 | 60 | 70 | 0.17 | 0.23 | 1.0 | 100 | 10.0 | DH50075 | F27d | M208 | 45 |
| EH50076 | 80 | 70 | 0.23 | 0.40 | 0.9 | 100 | 10.0 | DH50076 | F27d | M208 | 40 |
| EH50077 | 100 | 70 | 0.40 | 0.60 | 0.7 | 150 | 15.0 | DH50077 | F27d | M208 | 40 |
| EH50101 | 45 | 100 | 0.04 | 0.06 | 1.9 | 150 | 15.0 | DH50101 | F27d | M208 | 60 |
| EH50102 | 50 | 100 | 0.06 | 0.08 | 1.7 | 150 | 15.0 | DH50102 | F27d | M208 | 60 |
| EH50103 | 60 | 100 | 0.08 | 0.12 | 1.4 | 200 | 20.0 | DH50103 | F27d | M208 | 55 |
| EH50104 | 70 | 100 | 0.12 | 0.17 | 1.2 | 250 | 25.0 | DH50104 | F27d | M208 | 50 |
| EH50105 | 90 | 100 | 0.17 | 0.23 | 1.0 | 300 | 30.0 | DH50105 | F27d | M208 | 40 |
| EH50106 | 110 | 100 | 0.23 | 0.40 | 0.8 | 400 | 40.0 | DH50106 | F27d | M208 | 35 |
| EH50107 | 130 | 100 | 0.40 | 0.60 | 0.6 | 500 | 50.0 | DH50107 | F27d | M208 | 35 |

(1) Custom cases available on request

(2) C_T = C_j + C_b

Temperature ranges:

Operating Junction (T_j) : -55° C to +175° C

Storage : -65° C to +200° C