Pb Free Plating Product

# DSEP60-06A

60Ampere,600Volt SwitchMode Type Single Fast Recovery Epitaxial Diode

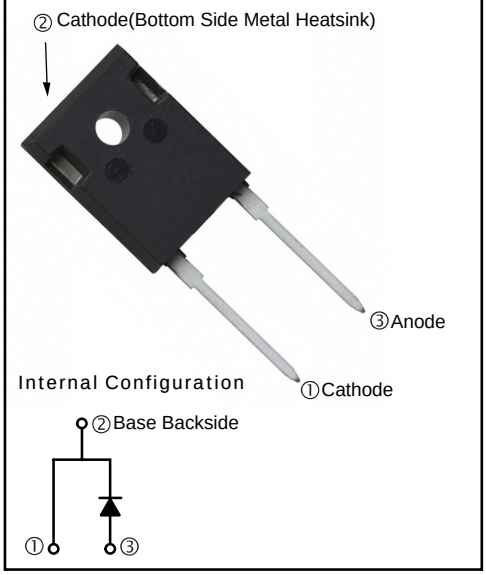
## APPLICATION

- Freewheeling, Snubber, Clamp
- Inversion Welder
- PFC
- Plating Power Supply
- Ultrasonic Cleaner and Welder
- Converter & Chopper
- UPS

## PRODUCT FEATURE

- Ultrafast Recovery Time
- Soft Recovery Characteristics
- Low Recovery Loss
- Low Forward Voltage
- High Surge Current Capability
- Low Leakage Current

TO-247-2L/TO-247-2PIN




## GENERAL DESCRIPTION

DSEP60-06A using the lastest FRED FAB process(planar passivation pellet) with ultrafast and soft recovery characteristics.

| Absolute Maximum Ratings | | | | |
|---|---|---|---|---|
| **Parameter** | **Symbol** | **Test Conditions** | **Values** | **Units** |
| Repetitive peak reverse voltage | $V_{RRM}$ | | 600 | V |
| Continuous forward current | $I_{F(AV)}$ | Tc =110°C | 60 | A |
| Single pulse forward current | $I_{FSM}$ | Tc =25°C | 500 | |
| Maximum repetitive forward current | $I_{FRM}$ | Square wave, 20kHZ | 120 | |
| Operating junction | Tj | | 175 | °C |
| Storage temperatures | Tstg | | -55 to +175 | °C |



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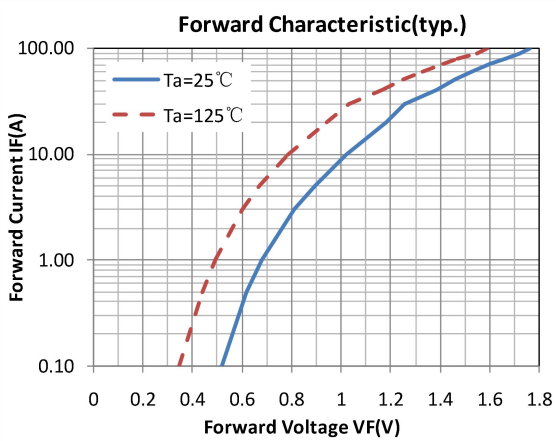
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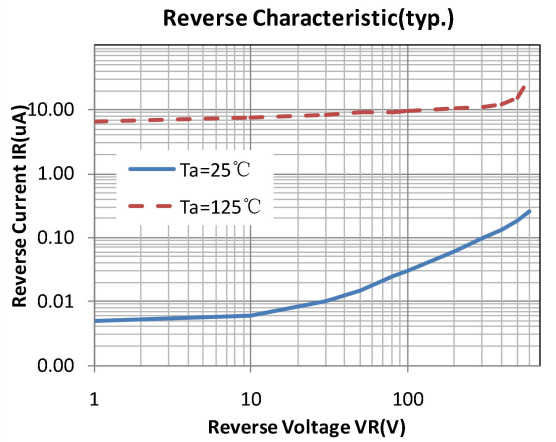
| Electrical characteristics (Ta=25°C unless otherwise specified) | | | | | | |
|---|---|---|---|---|---|---|
| **Parameter** | **Symbol** | **Test Conditions** | **Min** | **Typ.** | **Max.** | **Units** |
| Breakdown voltage Blocking voltage | $V_{BR}$, $V_R$ | $I_R$=100μA | 600 | | | V |
| Forward voltage (Per Diode) | $V_F$ | $I_F$=60A | | 1.45 | 1.70 | |
| | | $I_F$=60A, Tj =125°C | | 1.25 | 1.50 | |
| Reverse leakage current(Per Diode) | $I_R$ | $V_R$= $V_{RRM}$ | | | 50 | μA |
| | | Tj=150°C, $V_R$=600V | | | 500 | |
| Reverse recovery time(Per Diode) | $t_{rr}$ | $I_F$=0.5A, $I_R$=1A, $I_{RR}$=0.25A | | 40 | 55 | ns |
| | | $I_F$=1A,$V_R$=30V, di/*dt* =200A/us | | 30 | 40 | |

## Thermal characteristics

| **Paramter** | **Symbol** | Typ | Units |
|---|---|---|---|
| Junction-to-Case | $R_{\theta JC}$ | 0.8 | ℃/W |

## Electrical performance (typic)

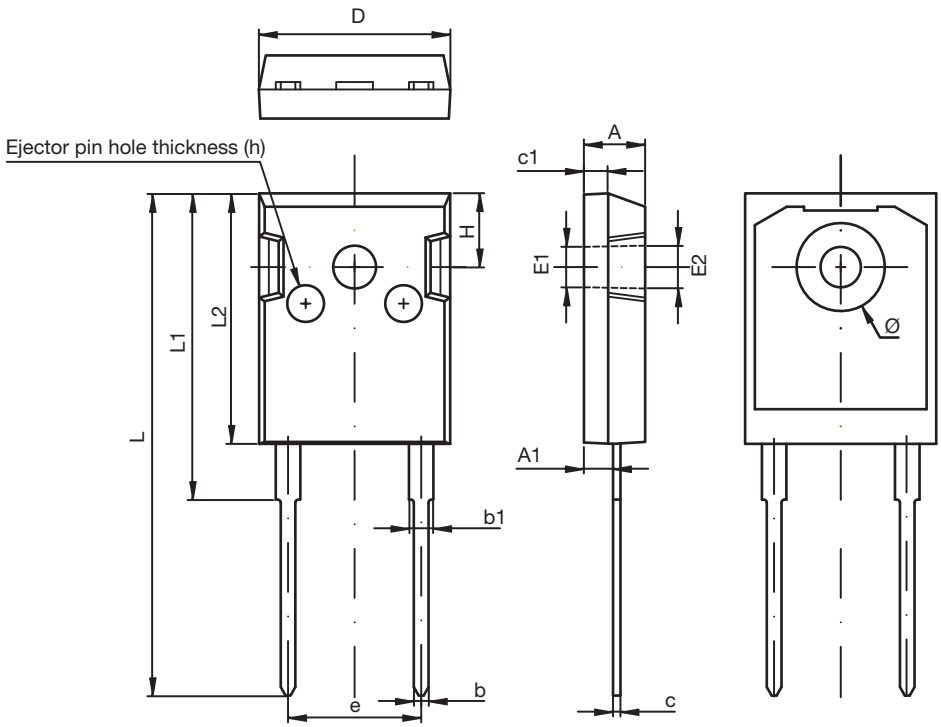





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## TO-247-2L DIMENSIONS

| SYMBOL | DIMENSIONS IN MILLIMETERS | | DIMENSIONS IN INCHES | |
|---|---|---|---|---|
| | MIN. | MAX. | MIN. | MAX. |
| A | 4.850 | 5.150 | 0.191 | 0.200 |
| A1 | 2.200 | 2.600 | 0.087 | 0.102 |
| b | 1.000 | 1.400 | 0.039 | 0.055 |
| b1 | 1.800 | 2.200 | 0.071 | 0.087 |
| c | 0.500 | 0.700 | 0.020 | 0.028 |
| c1 | 1.900 | 2.100 | 0.075 | 0.083 |
| D | 15.450 | 15.750 | 0.608 | 0.620 |
| E1 | 3.500 Ref. | | 0.138 Ref. | |
| E2 | 3.600 Ref. | | 0.142 Ref. | |
| L | 40.900 | 41.300 | 1.610 | 1.626 |
| L1 | 24.800 | 25.100 | 0.976 | 0.988 |
| L2 | 20.300 | 20.600 | 0.799 | 0.811 |
| Ø | 7.100 | 7.300 | 0.280 | 0.287 |
| e | 10.900 Typ. | | 0.429 Typ. | |
| H | 5.980 Typ. | | 0.235 Typ. | |
| h | 0.000 | 0.300 | 0.000 | 0.012 |



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