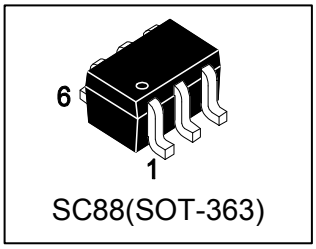
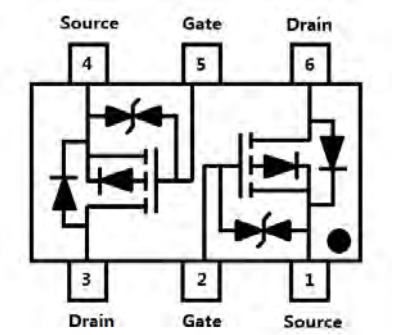
JXND ELECTRONICS CO.,LTD

# POWER MOSFET 50 Volts P-Channel
# BSS84EDW1T1G



SC88(SOT-363)




## 1. FEATURES

- Advanced trench cell design.
- High speed switch.
- ESD Protected: ±1000V
- We declare that the material of product compliance with RoHS requirements and Halogen Free.
- S- prefix for automotive and other applications requiring unique site and control change requirements; AEC-Q101 qualified and PPAP capable.

## 2. APPLICATIONS

- Portable appliances.
- Load switch appliances.

## 3. DEVICE MARKING AND ORDERING INFORMATION

| Device | Marking | Shipping |
|---|---|---|
| LBSS84EDW1T1G | PE | 3000/Tape&Reel |

## 4. MAXIMUM RATINGS(Ta = 25ºC)

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Drain–Source Voltage | VDSS | -50 | V |
| Gate–to–Source Voltage | VGSS | ±20 | V |
| Drain Current<br>– Continuous TA = 25°C<br>– Pulsed (tp≤10μs) | <br>ID<br>IDM | <br>-130<br>-520 | mA |

## 5. THERMAL CHARACTERISTICS

| Parameter | Symbol | Limits | Unit |
|---|---|---|---|
| Total Device Dissipation,<br>Per Device<br>FR−5 Board (Note 2) @ TA = 25ºC<br>Derate above 25ºC | PD | 380<br>250<br><br>3.0 | mW<br><br><br>mW/ºC |
| Thermal Resistance,<br>Junction–to–Ambient(Note 2) | RΘJA | 328 | ºC/W |
| Junction and Storage temperature | TJ,Tstg | −55~+150 | ° C |

1. Pulse Test: Pulse Width ≤ 300 μs, Duty Cycle ≤ 2.0%.
2. FR–5 = 1.0×0.75×0.062 in.

## 6. ELECTRICAL CHARACTERISTICS (Ta= 25℃ )

OFF CHARACTERISTICS

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Drain–Source Breakdown Voltage<br>(VGS = 0, ID = -250μA) | VBRDSS | -50 | - | - | V |
| Zero Gate Voltage Drain Current<br>(VGS = 0, VDS = -25 V)<br>(VGS = 0, VDS = -50 V) | IDSS | -<br>- | -<br>- | -0.1<br>-15 | μA |
| Gate–Body Leakage Current, Forward<br>(VGS = 20 V) | IGSSF | - | - | 10 | μA |
| Gate–Body Leakage Current, Reverse<br>(VGS = - 20 V) | IGSSR | - | - | -10 | μA |

ON CHARACTERISTICS (Note 2)

| | | | | | |
|---|---|---|---|---|---|
| Gate Threshold Voltage<br>(VDS = VGS, ID = -250μA) | VGS(th) | -0.9 | - | -2 | V |
| Static Drain–Source On–State Resistance<br>(VGS = -5.0 V, ID = -100 mA)<br>(VGS = -10 V, ID = -100 mA) | RDS(on) | -<br>- | 2<br>2 | 6<br>5 | Ohm |
| Transfer Admittance<br>(VDS = -25 V, ID = -100 mA, f = 1.0 kHz) | \|yfs\| | 50 | - | - | mS |

DYNAMIC CHARACTERISTICS

| | | | | | |
|---|---|---|---|---|---|
| Input Capacitance<br>(VDS = - 5.0 V) | Ciss | - | 30 | - | pF |
| Output Capacitance<br>(VDS = -5.0 V) | Coss | - | 10 | - | pF |
| Reverse Transfer Capacitance<br>(VDS = -5.0 V) | Ciss | - | 5 | - | pF |

SWITCHING CHARACTERISTICS

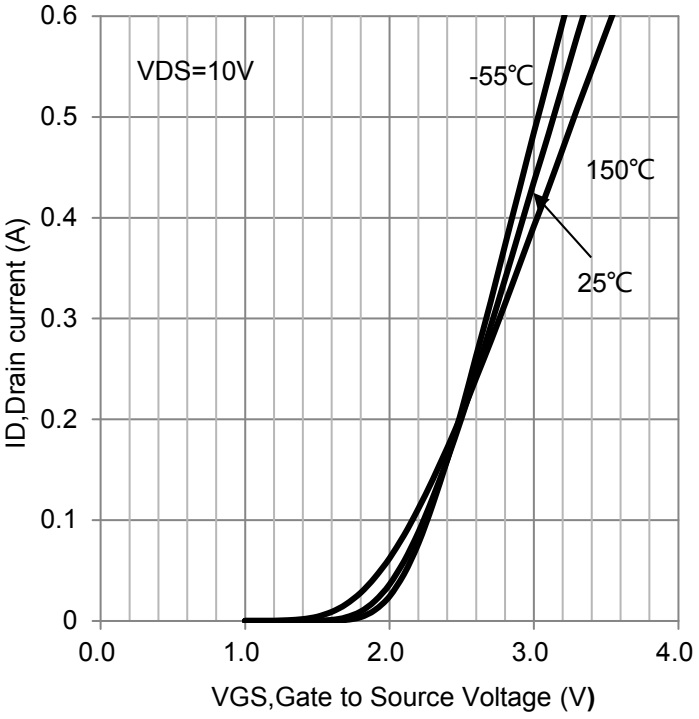
| | | | | | | |
|---|---|---|---|---|---|---|
| Turn-On Delay Time | (VDS = –25 V,VGEN =-10V,IDS = –0.1 A,RL =250Ω,RG=6Ω) | td(on) | - | 4.8 | - | ns |
| Rise Time | | tr | - | 19 | - | |
| Turn-Off Delay Time | | td(off) | - | 52 | - | |
| Fall Time | | tf | - | 32 | - | |

SOURCE–DRAIN DIODE CHARACTERISTICS

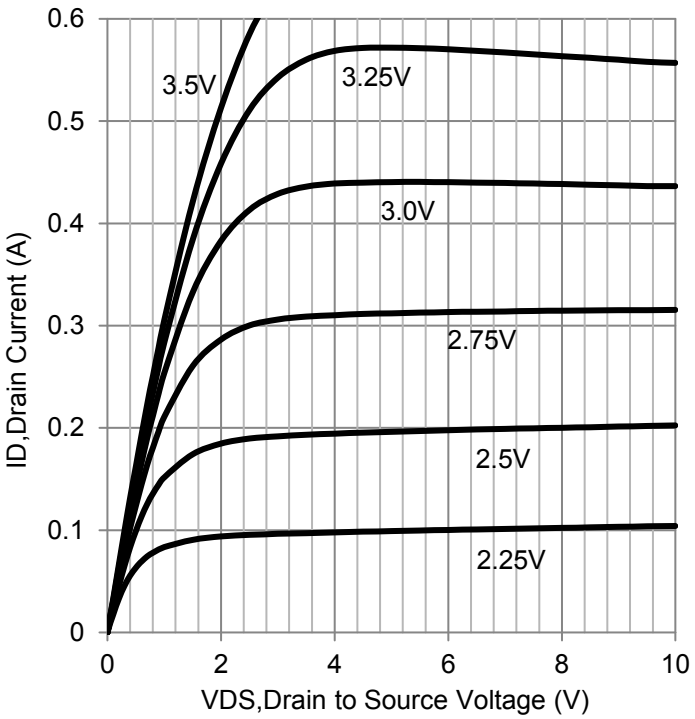
| | | | | | |
|---|---|---|---|---|---|
| Continuous Current | IS | - | - | -0.13 | A |
| Pulsed Current | ISM | - | - | -0.52 | A |
| Forward Voltage | VSD | - | -2.2 | - | V |

2.Pulse Test: Pulse Width ≤300 μs, Duty Cycle ≤2.0%.

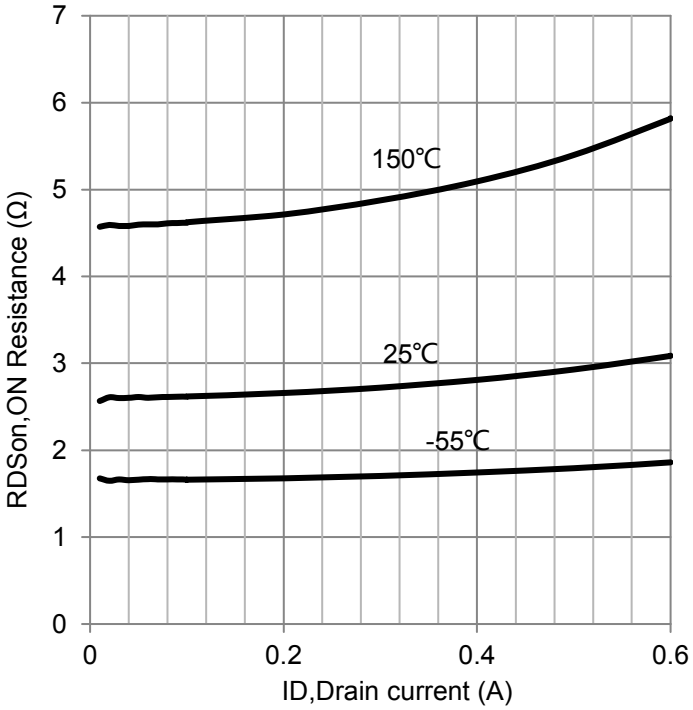
## 7. ELECTRICAL CHARACTERISTICS CURVES



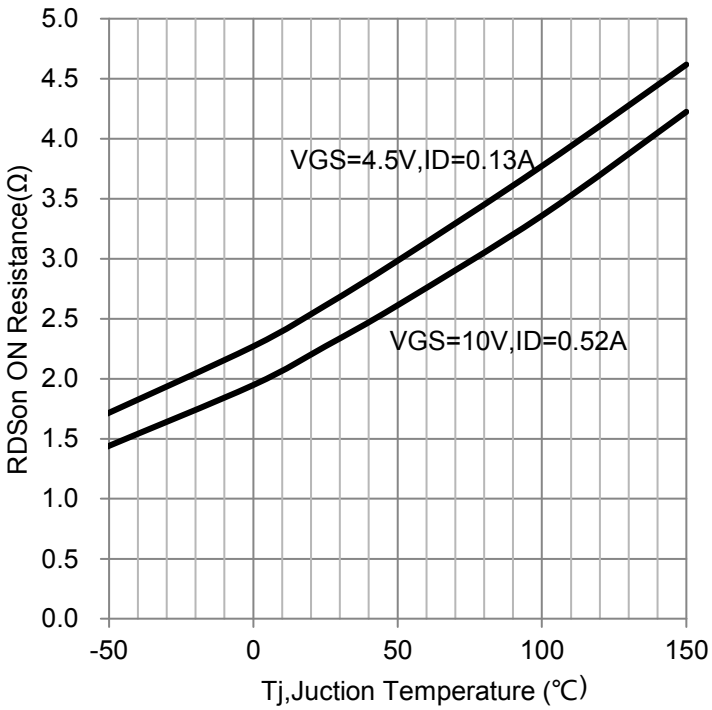

ID vs. VGS




ID vs. VDS

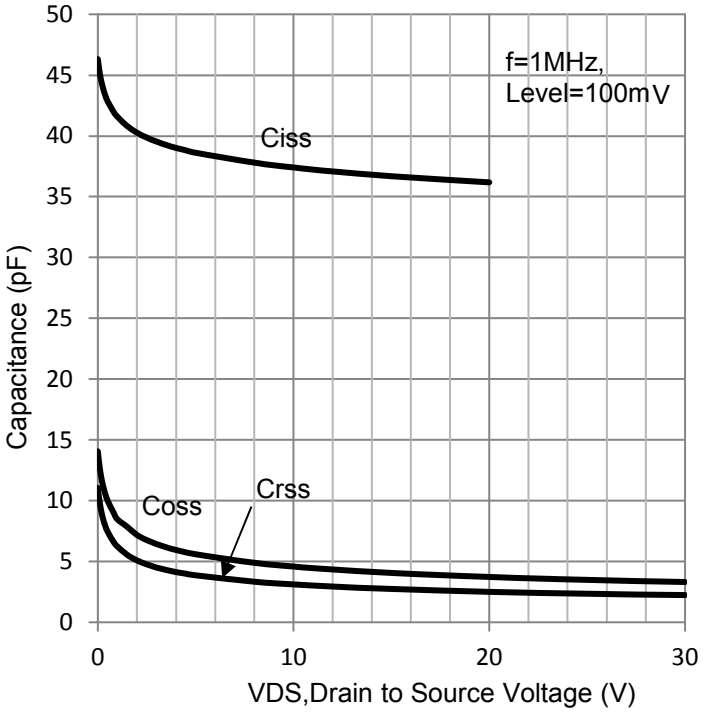



RDSon vs. ID

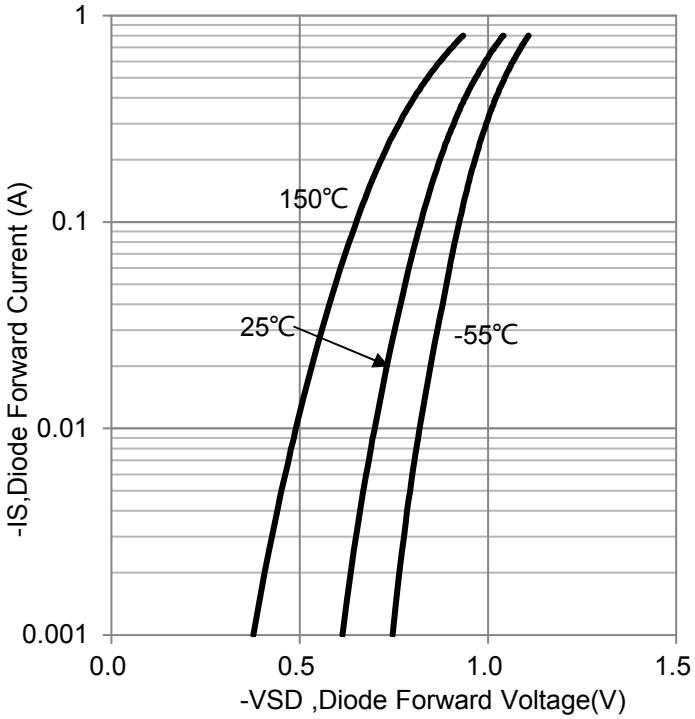



RDSon vs. Tj

## 7.ELECTRICAL CHARACTERISTICS CURVES(Con.)

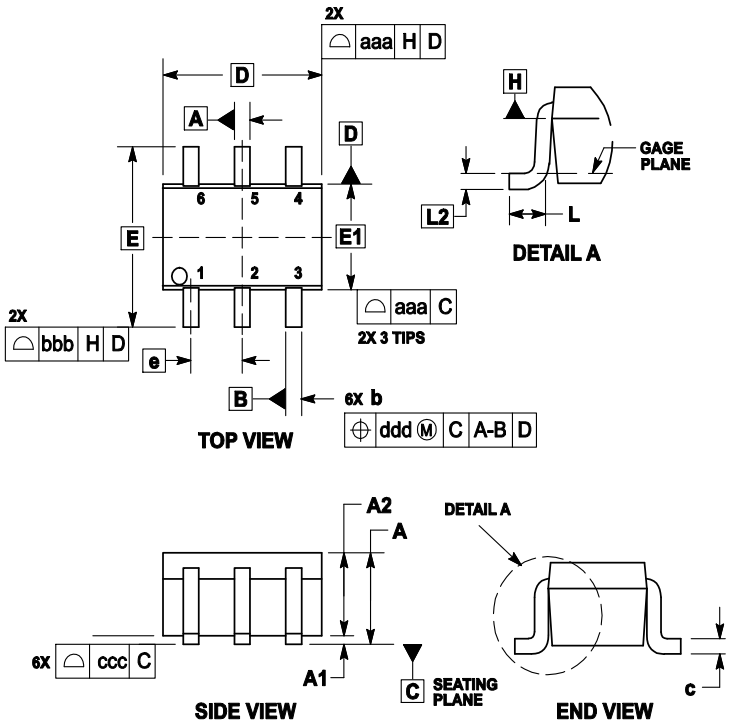



Capacitance




IS vs. VSD

## 8.OUTLINE AND DIMENSIONS




Notes:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.

| | MILLIMETERS | | | INCHES | | |
|---|---|---|---|---|---|---|
| DIM | MIN | NOM | MAX | MIN | NOM | MAX |
| A | --- | --- | 1.10 | --- | --- | 0.043 |
| A1 | 0.00 | --- | 0.10 | 0 | --- | 0.004 |
| A2 | 0.70 | 0.90 | 1.00 | 0.027 | 0.035 | 0.039 |
| b | 0.15 | 0.20 | 0.25 | 0.006 | 0.008 | 0.01 |
| C | 0.08 | 0.15 | 0.22 | 0.003 | 0.006 | 0.009 |
| D | 1.80 | 2.00 | 2.20 | 0.07 | 0.078 | 0.086 |
| E | 2.00 | 2.10 | 2.20 | 0.078 | 0.082 | 0.086 |
| E1 | 1.15 | 1.25 | 1.35 | 0.045 | 0.049 | 0.053 |
| e | 0.65 BSC | | | 0.026 BSC | | |
| L | 0.26 | 0.36 | 0.46 | 0.010 | 0.014 | 0.018 |
| L2 | 0.15 BSC | | | 0.006 BSC | | |
| aaa | 0.15 | | | 0.01 | | |
| bbb | 0.30 | | | 0.01 | | |
| ccc | 0.10 | | | 0.00 | | |
| ddd | 0.10 | | | 0.00 | | |

## 9.SOLDERING FOOTPRINT