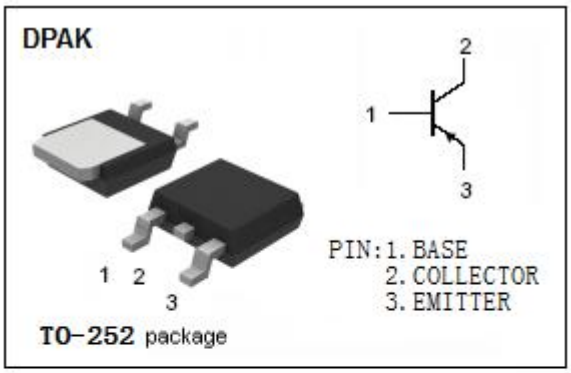
# isc Silicon PNP Power Transistor — 2SA1615-Z

## DESCRIPTION

- Large current capacity:$I_{C(DC)}$= -10A $I_{C(pulse)}$=-15A
- High $h_{FE}$ and low saturation voltage:
  $h_{FE}$= 200min ($V_{CE}$=-2V,$I_C$=-0.5A)
  $V_{CE(sat)}$≤-0.25V ($I_C$=-4A,$I_B$=-0.05A)
- 100% avalanche tested
- Minimum Lot-to-Lot variations for robust device performance and reliable operation

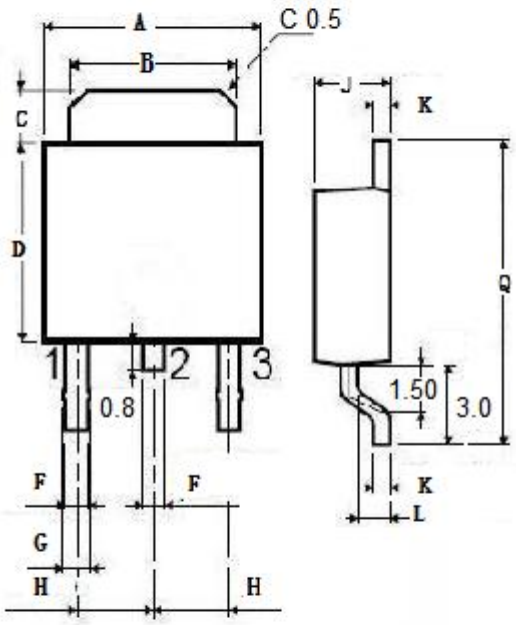



## APPLICATIONS

- The 2SA1615 is available for the large current control in small dimension due to the low saturation and is ideal for high efficiency DC/AC converters due to the fast switching speed

## ABSOLUTE MAXIMUM RATINGS($T_a$=25℃)

| SYMBOL | PARAMETER | VALUE | UNIT |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | -30 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | -20 | V |
| $V_{EBO}$ | Emitter-Base Voltage | -10 | V |
| $I_C$ | Collector Current-Continuous | -10 | A |
| $I_{CM}$ | Collector Current-Peak | -15 | A |
| $P_C$ | Collector Power Dissipation @ $T_C$=25℃ | 15 | W |
| | Collector Power Dissipation @$T_a$=25℃ | 1.0 | |
| $T_J$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~150 | ℃ |




| DIM | mm MIN | MAX |
|---|---|---|
| A | 6.40 | 6.60 |
| B | 5.20 | 5.40 |
| C | 1.15 | 1.35 |
| D | 5.70 | 6.10 |
| F | 0.65 | |
| G | 0.75 | |
| H | 2.10 | 2.50 |
| J | 2.10 | 2.40 |
| K | 0.40 | 0.60 |
| L | 0.90 | 1.10 |
| Q | 9.90 | 10.1 |

# isc Silicon PNP Power Transistor 2SA1615-Z

## ELECTRICAL CHARACTERISTICS

**$T_C$=25℃ unless otherwise specified**

| SYMBOL | PARAMETER | CONDITIONS | MIN | TYP. | MAX | UNIT |
|---|---|---|---|---|---|---|
| $V_{CE(sat)}$NOTE | Collector-Emitter Saturation Voltage | $I_C$= -4A; $I_B$= -50mA | | | -0.25 | V |
| $V_{BE(sat)}$NOTE | Base-Emitter Saturation Voltage | $I_C$= -4A; $I_B$= -50mA | | | -1.2 | V |
| $I_{CBO}$ | Collector Cutoff Current | $V_{CB}$= -20V; $I_E$= 0 | | | -1.0 | μA |
| $I_{EBO}$ | Emitter Cutoff Current | $V_{EB}$= -8V; $I_C$= 0 | | | -1.0 | μA |
| $h_{FE-1}$NOTE | DC Current Gain | $I_C$= -0.5A; $V_{CE}$= -2V | 200 | | 600 | |
| $h_{FE-2}$NOTE | DC Current Gain | $I_C$= -4A; $V_{CE}$= -2V | 160 | | | |
| $C_{OB}$ | Output Capacitance | $I_E$= 0; $V_{CB}$= -10V; f= 1.0MHz | | 220 | | pF |
| $f_T$ | Current-Gain—Bandwidth Product | $I_C$= -1.5A; $V_{CE}$= -5V | | 180 | | MHz |

NOTE:Pulse test PW≤350us,duty cycle ≤2%

### ◆ $h_{FE-1}$ Classifications

| L | K |
|---|---|
| 200-400 | 300-600 |

# isc Silicon PNP Power Transistor 2SA1615-Z

**NOTICE：**

ISC reserves the rights to make changes of the content herein the datasheet at any time without notification. The information contained herein is presented only as a guide for the applications of our products.

ISC products are intended for usage in general electronic equipment. The products are not designed for use in equipment which require specialized quality and/or reliability, or in equipment which could have applications in hazardous environments, aerospace industry, or medical field. Please contact us if you intend our products to be used in these special applications.

ISC makes no warranty or guarantee regarding the suitability of its products for any particular purpose, nor does ISC assume any liability arising from the application or use of any products, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages.