

RoHS Compliant Product  
A suffix of "-C" specifies halogen & lead-free

## FEATURES

- Low  $V_{CE(sat)}$ .  $V_{CE(sat)} = 0.25V(Typ.)$  ( $I_C/I_B = 4A / 0.1A$ )
- Excellent DC Current Gain Characteristics

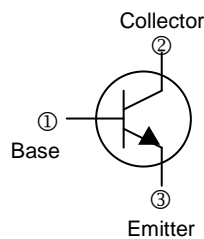
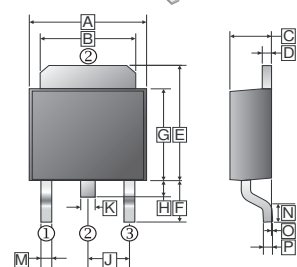
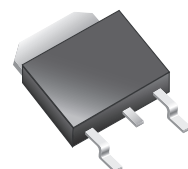
## CLASSIFICATION OF $h_{FE}$

|              |           |           |
|--------------|-----------|-----------|
| Product-Rank | 2SD2118-Q | 2SD2118-R |
| Range        | 120~270   | 180~390   |

## PACKAGE INFORMATION

|         |      |             |
|---------|------|-------------|
| Package | MPQ  | Leader Size |
| TO-252  | 2.5K | 13 inch     |

## D-Pack (TO-252)



| REF. | Millimeter |      | REF. | Millimeter |      |
|------|------------|------|------|------------|------|
|      | Min.       | Max. |      | Min.       | Max. |
| A    | 6.35       | 6.8  | J    | 2.30       | REF. |
| B    | 5.20       | 5.50 | K    | 0.64       | 0.90 |
| C    | 2.15       | 2.40 | M    | 0.50       | 1.1  |
| D    | 0.45       | 0.58 | N    | 0.9        | 1.65 |
| E    | 6.8        | 7.5  | O    | 0          | 0.15 |
| F    | 2.40       | 3.0  | P    | 0.43       | 0.58 |
| G    | 5.40       | 6.25 |      |            |      |
| H    | 0.64       | 1.20 |      |            |      |

## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ C$ unless otherwise specified)

| Parameter                              | Symbol         | Ratings      | Unit       |
|--|----------------|--------------|------------|
| Collector to Base Voltage              | $V_{CBO}$      | 50           | V          |
| Collector to Emitter Voltage           | $V_{CEO}$      | 20           | V          |
| Emitter to Base Voltage                | $V_{EBO}$      | 6            | V          |
| Collector Current -Continuous          | $I_C$          | 5            | A          |
| Collector Power Dissipation            | $P_C$          | 1            | W          |
| Junction and Storage Temperature Range | $T_J, T_{STG}$ | 150, -55~150 | $^\circ C$ |

## ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ C$ unless otherwise noted)

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit    | Test Conditions                 |
|--------------------------------------|---------------|------|------|------|---------|---------------------------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | 50   | -    | -    | V       | $I_C=50\mu A, I_E=0$            |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | 20   | -    | -    | V       | $I_C=1mA, I_B=0$                |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | 6    | -    | -    | V       | $I_E=50\mu A, I_C=0$            |
| Collector cut-off current            | $I_{CBO}$     | -    | -    | 0.5  | $\mu A$ | $V_{CB}=40V, I_E=0$             |
| Emitter cut-off current              | $I_{EBO}$     | -    | -    | 0.5  | $\mu A$ | $V_{EB}=5V, I_C=0$              |
| DC current gain                      | $h_{FE}$      | 120  | -    | 390  |         | $V_{CE}=2V, I_C=500mA$          |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | -    | -    | 1    | V       | $I_C=4A, I_B=100mA$             |
| Transition frequency                 | $f_T$         | -    | 150  | -    | MHz     | $V_{CE}=6V, I_C=50mA, f=100MHz$ |
| Collector Output Capacitance         | $C_{OB}$      | -    | 30   | -    | pF      | $V_{CB}=20V, I_E=0, f=1MHz$     |