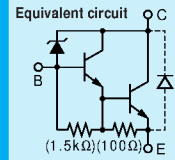


Built-in Avalanche Diode  
for Surge Absorbing  
Darlington

# 2SD2141



Silicon NPN Triple Diffused Planar Transistor

Application : Ignitor, Driver for Solenoid and Motor, and General Purpose

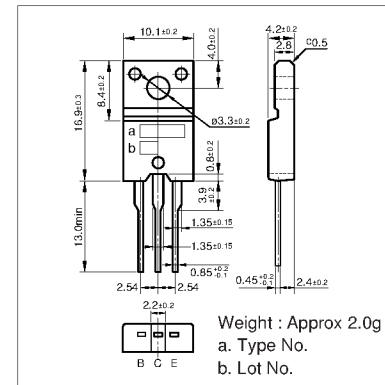
**Absolute maximum ratings** (Ta=25°C)

| Symbol           | 2SD2141     | Unit |
|------------------|-------------|------|
| V <sub>CB0</sub> | 380±50      | V    |
| V <sub>CE0</sub> | 380±50      | V    |
| V <sub>EB0</sub> | 6           | V    |
| I <sub>c</sub>   | 6(Pulse10)  | A    |
| I <sub>b</sub>   | 1           | A    |
| P <sub>c</sub>   | 35(Tc=25°C) | W    |
| T <sub>j</sub>   | 150         | °C   |
| T <sub>stg</sub> | -55 to +150 | °C   |

**Electrical Characteristics** (Ta=25°C)

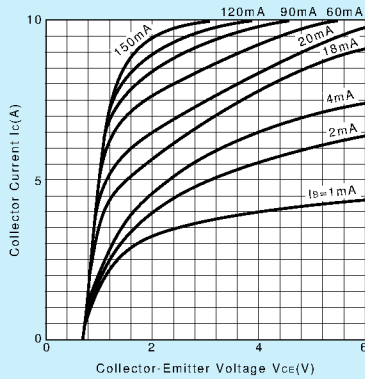
| Symbol               | Conditions                                  | 2SD2141    | Unit |
|----------------------|---|------------|------|
| I <sub>CB0</sub>     | V <sub>CB</sub> =330V                       | 10max      | μA   |
| I <sub>EB0</sub>     | V <sub>EB</sub> =6V                         | 20max      | mA   |
| V <sub>(BR)CEO</sub> | I <sub>c</sub> =25mA                        | 330 to 430 | V    |
| h <sub>FE</sub>      | V <sub>CE</sub> =2V, I <sub>c</sub> =3A     | 1500min    |      |
| V <sub>CE(sat)</sub> | I <sub>c</sub> =4A, I <sub>b</sub> =20mA    | 1.5max     | V    |
| f <sub>T</sub>       | V <sub>CE</sub> =12V, I <sub>E</sub> =-0.5A | 20typ      | MHz  |
| C <sub>OB</sub>      | V <sub>CB</sub> =10V, f=1MHz                | 95typ      | pF   |

**External Dimensions FM20(TO220F)**

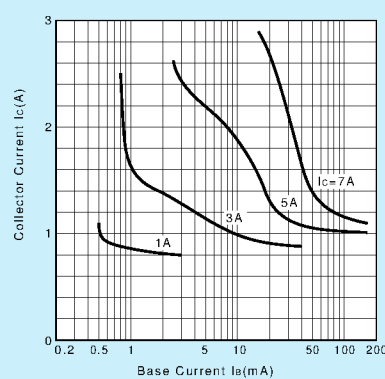


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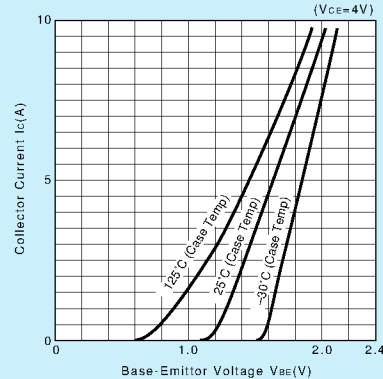
**I<sub>c</sub>-V<sub>CE</sub> Characteristics (Typical)**



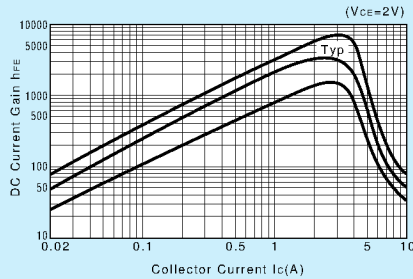
**V<sub>CE(sat)</sub>-I<sub>B</sub> Characteristics (Typical)**



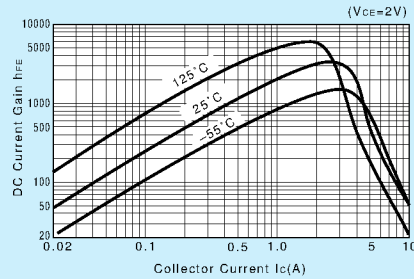
**I<sub>c</sub>-V<sub>BE</sub> Temperature Characteristics (Typical)**



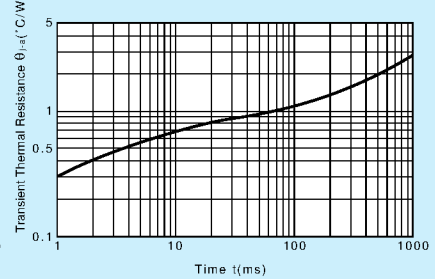
**h<sub>FE</sub>-I<sub>c</sub> Characteristics (Typical)**



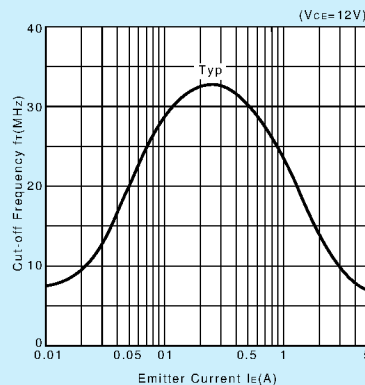
**h<sub>FE</sub>-I<sub>c</sub> Temperature Characteristics (Typical)**



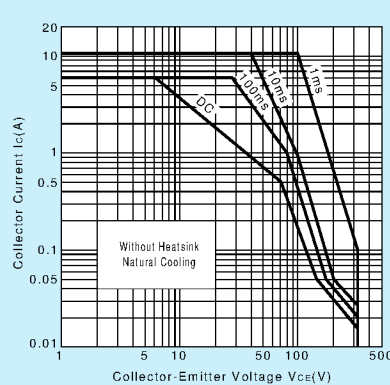
**θ<sub>1-a</sub>-t Characteristics**



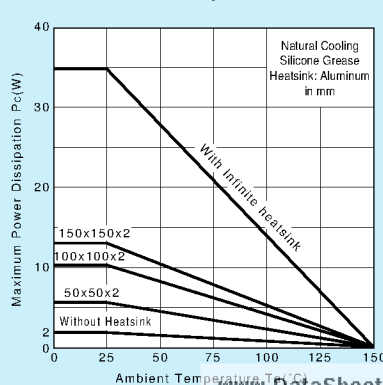
**f<sub>T</sub>-I<sub>E</sub> Characteristics (Typical)**



**Safe Operating Area (Single Pulse)**



**P<sub>c</sub>-T<sub>a</sub> Derating**



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