# Super Fast Recovery Diode

## RF305B6S

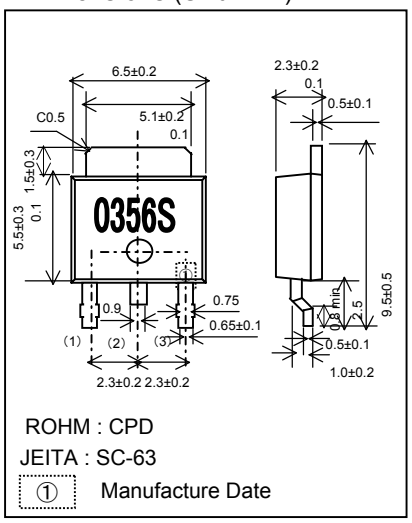
**●Series**
Standard Fast Recovery

**●Applications**
General rectification

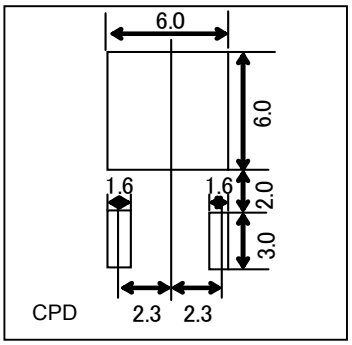
**●Features**
1)Low forward voltage
2)Low switching loss

**●Construction**
Silicon epitaxial planer

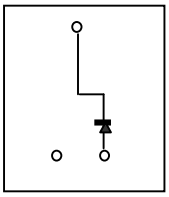
**●Dimensions** (Unit : mm)



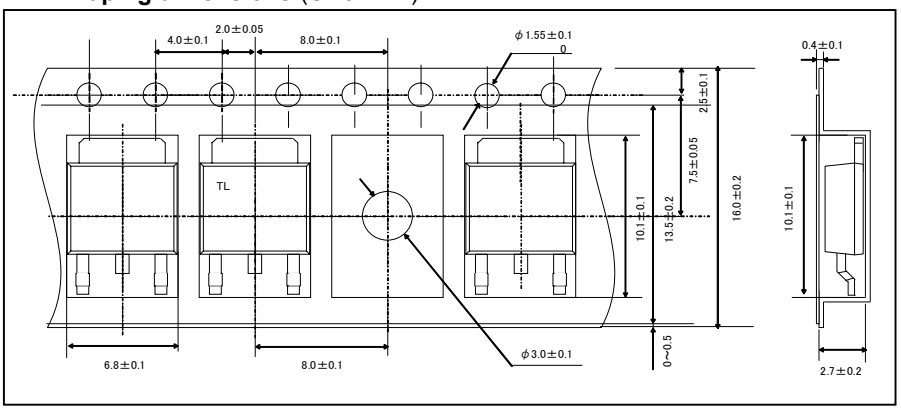

**●Land size figure** (Unit : mm)




**●Structure**



**●Taping dimensions** (Unit : mm)



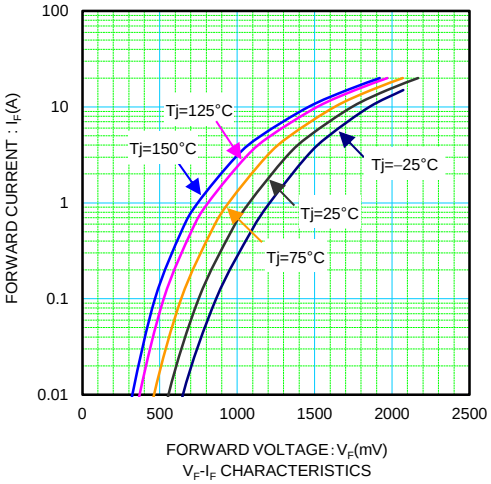

**●Absolute maximum ratings** (Tc=25°C)

| Parameter | Symbol | Conditions | | Limits | Unit |
|---|---|---|---|---|---|
| Repetitive peak reverse voltage | $V_{RM}$ | Duty≤0.5 | | 600 | V |
| Reverse voltage | $V_R$ | Direct voltage | | 600 | V |
| Average rectified forward current | Io | 60Hz half sin wave, resistive load | Tc=83°C | 3.0 | A |
| Forward current surge peak | $I_{FSM}$ | 60Hz half sin wave, Non-repetitive one cycle peak value, Tj=25°C | | 50 | A |
| Junction temperature | Tj | | | 150 | °C |
| Storage temperature | Tstg | | | −55 to +150 | °C |

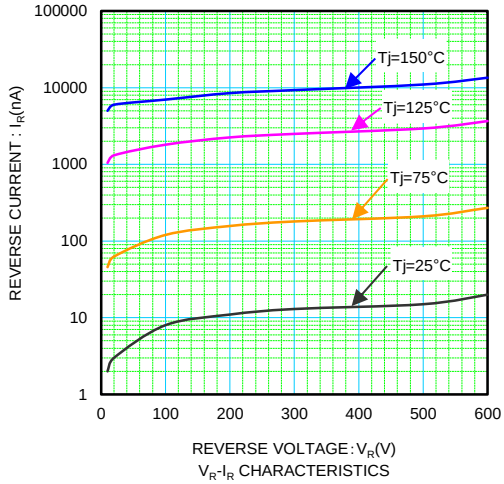
**●Electrical characteristics** (Tj=25°C)

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Forward voltage | $V_F$ | $I_F$=3.0A | — | 1.3 | 1.7 | V |
| Reverse current | $I_R$ | $V_R$=600V | — | 0.04 | 10 | μA |
| Reverse recovery time | trr | $I_F$=0.5A,$I_R$=1A,Irr=0.25×$I_R$ | — | 22 | 30 | ns |
| Thermal resistance | Rth(j-l) | junction to lead | — | — | 12 | °C/W |

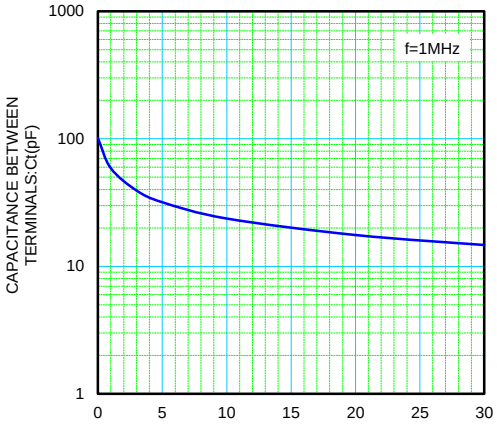

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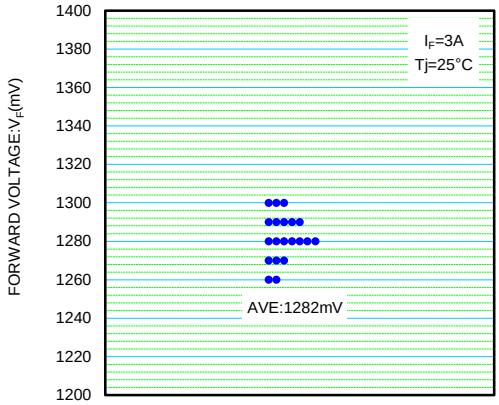

$V_F$-$I_F$ CHARACTERISTICS



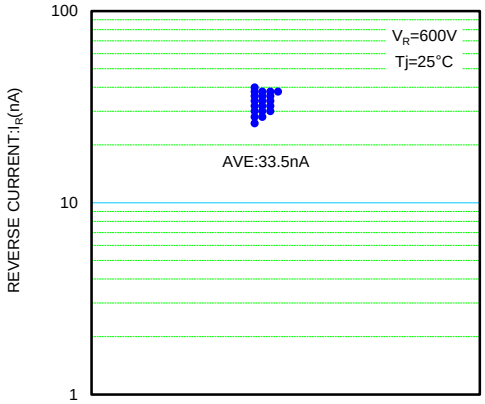

$V_R$-$I_R$ CHARACTERISTICS



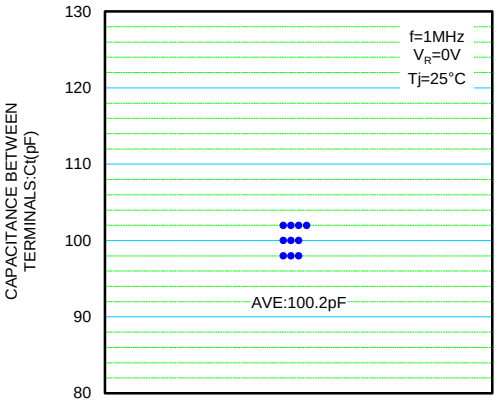

$V_R$-Ct CHARACTERISTICS




$V_F$ DISPERSION MAP

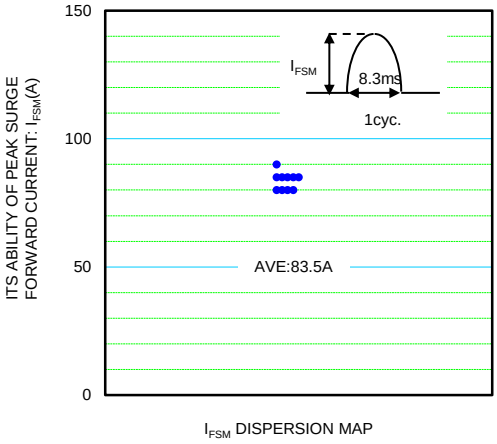



$I_R$ DISPERSION MAP

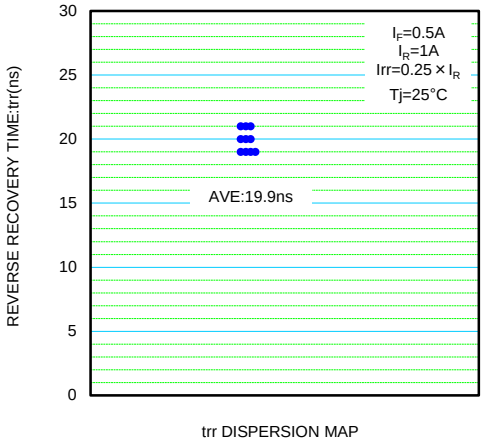



Ct DISPERSION MAP

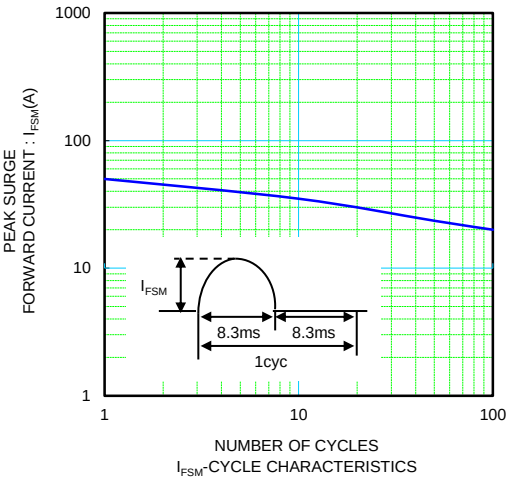

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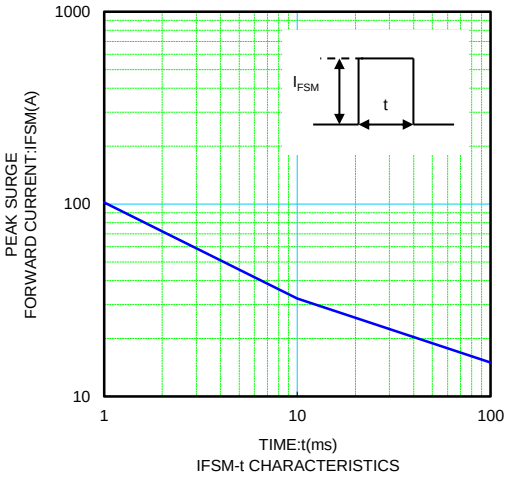


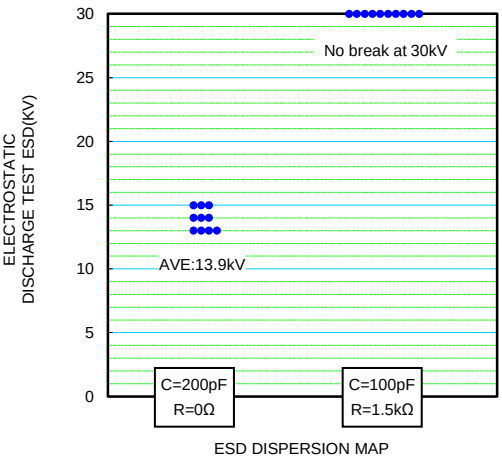

$I_{FSM}$ DISPERSION MAP

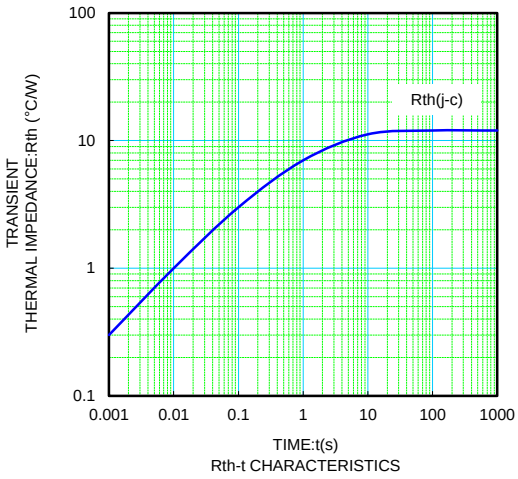



trr DISPERSION MAP



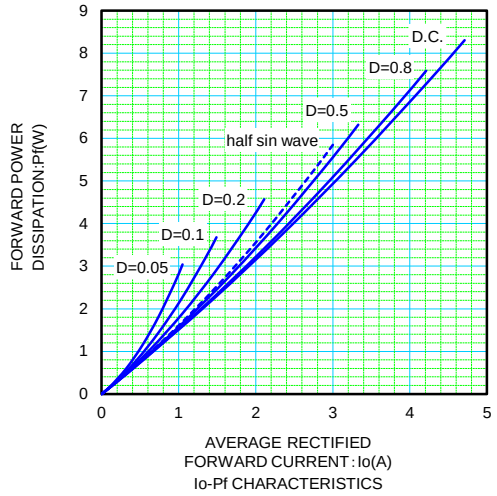



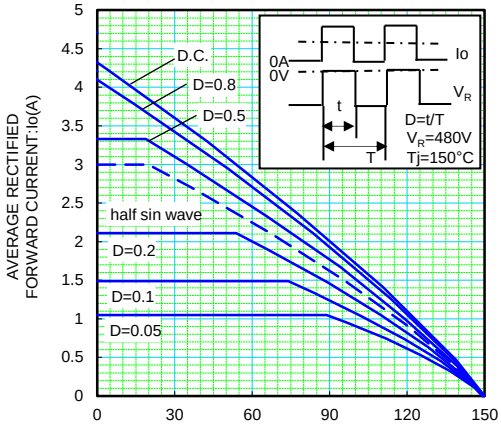





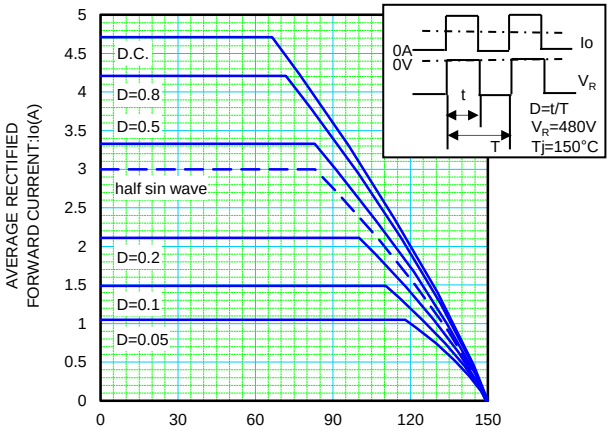
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Io-Pf CHARACTERISTICS




DERATING CURVE (Io-Ta)




DERATING CURVE (Io-Tc)


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