

## FUJI Small-IPM X-series

### Bootstrap Diode (BSD) built-in current limiting resistance characteristics

Because a built-in current limiting resistor is formed in the diode silicon, the BSD  $V_F$ - $I_F$  characteristic includes the resistance value as shown in Fig.1 and Fig.2. The equivalent dc-resistance against the charging voltage is shown in Fig.3. Refer to it when setting the bootstrap capacitance and minimum ON/OFF pulse width. For specific design of the bootstrap circuit, please refer to application manual.

Type name: 6MBP15XSD(F)060-50, 6MBP15XSD(F)060-50-F1  
 6MBP20XSD(F)060-50, 6MBP20XSD(F)060-50-F1  
 6MBP30XSD(F)060-50, 6MBP30XSD(F)060-50-F1  
 6MBP35XSD(F)060-50, 6MBP35XSD(F)060-50-F1

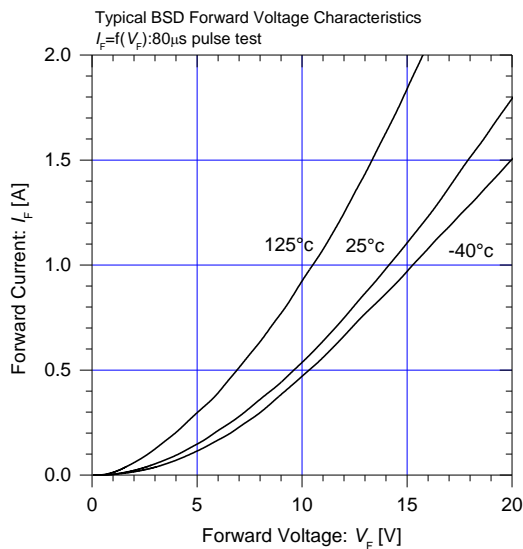


Fig.1  $V_F$ - $I_F$  curve of BSD

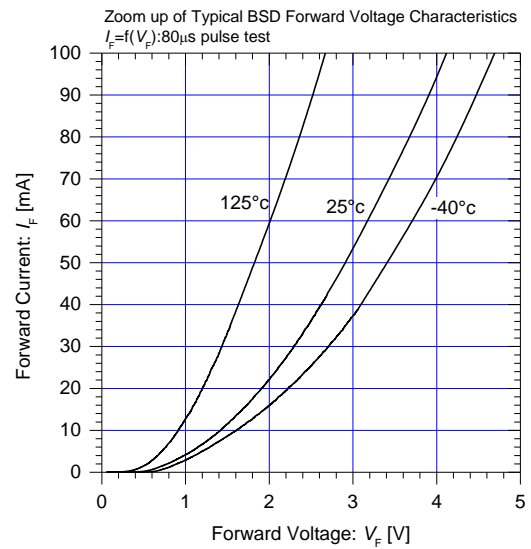


Fig.2  $V_F$ - $I_F$  curve of BSD ( $I_F < 100$ mA)

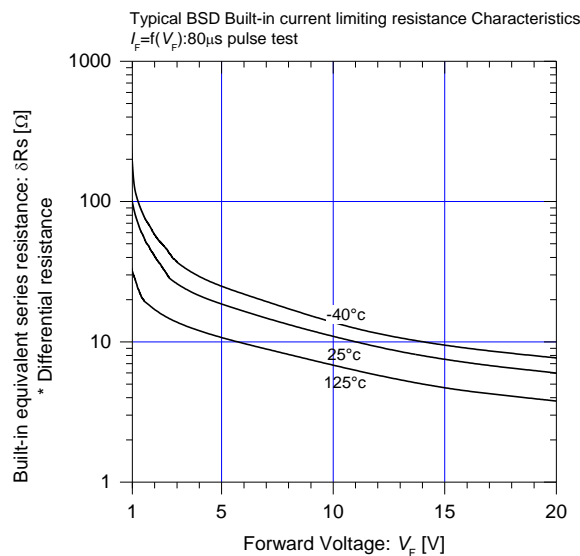


Fig.3 Built-in current limiting resistance of BSD

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