

FFSB1065B F085

ABSOLUTE MAXIMUM RATINGS (T_C = 25 C unless otherwise noted)

Symbol	Parameter	Value	Unit	
V _{RRM}	Peak Repetitive Reverse Voltage	650	V	
E _{AS}	Single Pulse Avalanche Energy (Note 1)	49	mJ	
I _F	Continuous Rectified Forward Current @ T _C < 25 C	27	A	
	Continuous Rectified Forward Current @ T _C < 146 C	10		
I _{F, Max}	Non-Repetitive Peak Forward Surge Current	T _C = 25 C, 10 μs	650	A
		T _C = 150 C, 10 μs	570	A
I _{F, SM}	Non-Repetitive Forward Surge Current T _C = 25 C	Half-Sine Pulse, t _p = 8.3 ms	45	A
P _{tot}	Power Dissipation	T _C = 25 C	79	W
		T _C = 150 C	13	W
T _J , T _{STG}	Operating and Storage Temperature Range	55 to +175	C	

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. E_{AS} of 49 mJ is based on starting T_J = 25 C, L = 0.5 mH, I_{AS} = 14 A, V = 50 V.

THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Unit
R _{θJC}	Thermal Resistance, Junction to Case, Max	1.9	C/W

ELECTRICAL CHARACTERISTICS (T_C = 25 C unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V _F	Forward Voltage	I _F = 10 A, T _C = 25 C		1.38	1.7	V
		I _F = 10 A, T _C = 125 C		1.6	2.0	
		I _F = 10 A, T _C = 175 C		1.72	2.4	
I _R	Reverse Current	V _R = 650 V, T _C = 25 C				

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TYPICAL CHARACTERISTICS

(T_J)

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TYPICAL CHARACTERISTICS
($T_J = 25\text{ C}$ UNLESS OTHERWISE NOTED)

Figure 7. Capacitance Stored Energy

Figure 8. Junction-to-Case Transient Thermal Response Curve

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TEST CIRCUIT AND WAVEFORMS

$L = 0.5 \text{ mH}$
 $R < 0.1 \Omega$
 $V_{DD} = 50 \text{ V}$
 $E_{AVL} = 1/2LI^2 [V]$

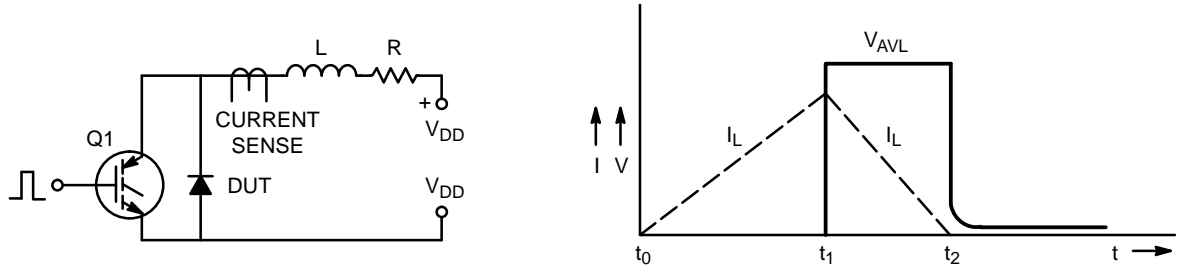
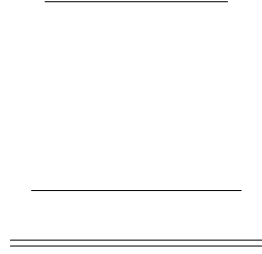
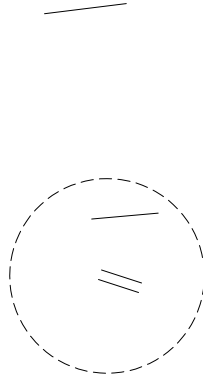


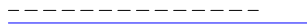
Figure 9. Unclamped Inductive Switching Test Circuit & Waveform

D²PAK2 (TO-263-2L)
CASE 418BK
ISSUE O

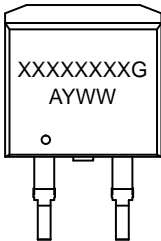
DATE 02 AUG 2018



DET/



**GENERIC
MARKING DIAGRAM***



- XXX = Specific Device Code
- A = Assembly Location
- Y = Year
- WW = Work Week
- G = Pb-Free Package

*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

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