



General Description

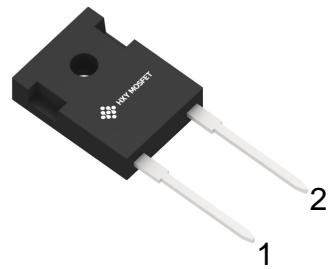
This product family offers state of the art performance. It is designed for high frequency applications where high efficiency and high reliability are required.

Features

- Low conduction loss due to low V_F
- Extremely low switching loss by tiny Q_C
- Highly rugged due to better surge current
- Industrial standard quality and reliability

Applications

- UPS
- Power Inverter
- High performance SMPS
- Power factor correction



TO-247-2L



Part Number	Package	Brand
FFSH2065B-F085	TO-247-2L	HXY MOSFET

Maximum Ratings

Symbol	Parameter	Value	Unit	Test Conditions
V_{RRM}	Repetitive Peak Reverse Voltage	650	V	
V_{RSM}	Surge Peak Reverse Voltage	650	V	
V_R	DC Peak Reverse Voltage	650	V	
I_F	Continuous Forward Current	26	A	$T_c=135^\circ C$
I_{FRM}	Repetitive Peak Forward Surge Current	102 63	A	$T_c=25^\circ C, t_p=10 \text{ ms, Half Sine Wave, D=1}$ $T_c=110^\circ C, t_p=10 \text{ ms, Half Sine Wave, D=1}$
I_{FSM}	Non-Repetitive Peak Forward Surge Current	150 120	A	$T_c=25^\circ C, t_p=10 \text{ ms, Half Sine Wave, D=1}$ $T_c=110^\circ C, t_p=10 \text{ ms, Half Sine Wave, D=1}$
P_{tot}	Power Dissipation	150 65	W	$T_c=25^\circ C$ $T_c=110^\circ C$
$\int i^2 dt$	$i^2 dt$ value	112 72	$A^2 s$	$T_c = 25^\circ C, t_p=10 \text{ ms, Half Sine Pulse}$ $T_c = 110^\circ C, t_p=10 \text{ ms, Half Sine Pulse}$
T_J	Operating Junction Range	-55 to +175	°C	
T_{stg}	Storage Temperature Range	-55 to +150	°C	



Electrical Characteristics

Parameter	Symbol	Value			Unit	Test Condition
		min.	typ.	max.		
Forward Voltage	V_F	-	1.35	1.5	V	$I_F=20A$
		-	1.7	1.8		$T_j=25^\circ C$
Reverse Current	I_R	-	2	40	μA	$V_R=650V$
		-	10	100		$T_j=25^\circ C$
Total Capacitive Charge	Q_C	-	52	-	nC	$T_j=25^\circ C$
		-	-	-		$V_R=400V, T_j=25^\circ C$
Total Capacitance	C	-	1018	-	pF	$T_j=25^\circ C, f=1MHz$
		-	104	-		$V_R=0V$
		-	89	-		$V_R=200V$
		-	-	-		$V_R=400V$

Thermal Characteristics

Symbol	Parameter	Typ.	Unit
$R_{\theta JC}$	Thermal Resistance from Junction to Case	1.00	°C/W

Typical Performance

Fig 1: Forward Characteristics

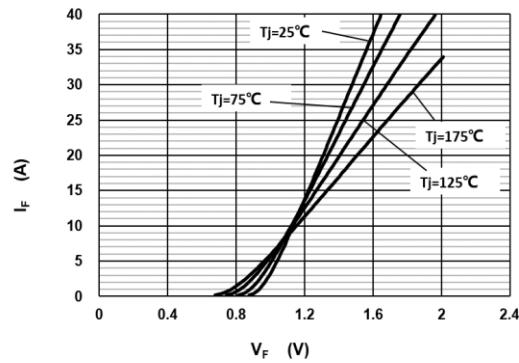


Fig 2: Reverse Characteristics

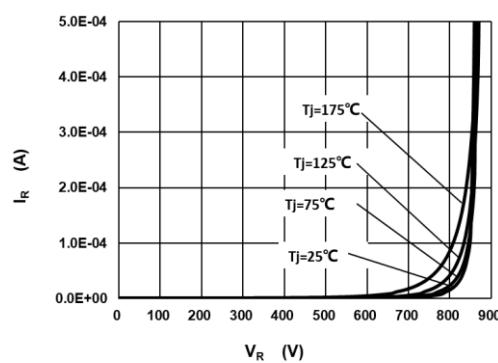




Fig 3: Current Derating

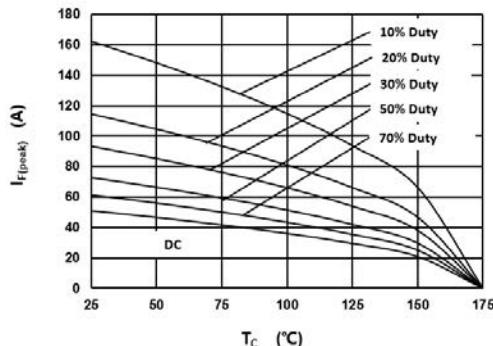


Fig 5: Capacitance vs. Reverse Voltage

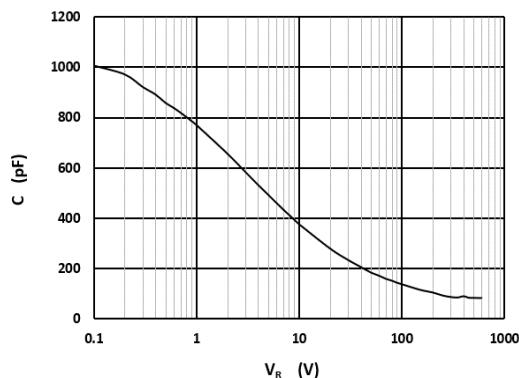


Fig 7: Typical Capacitance Stored Energy

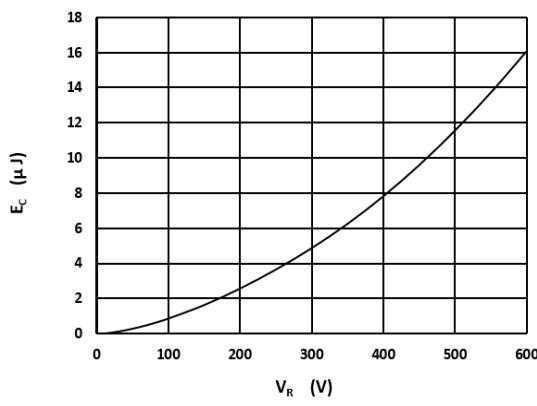


Fig 4: Power Derating

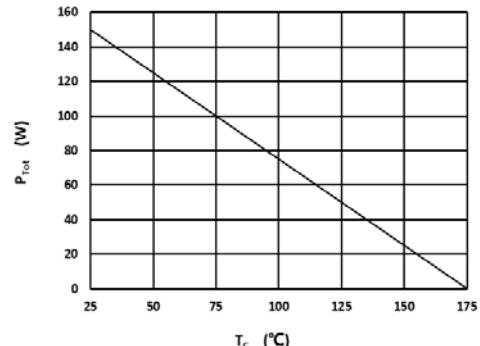


Fig 6: Reverse Charge vs. Reverse Voltage

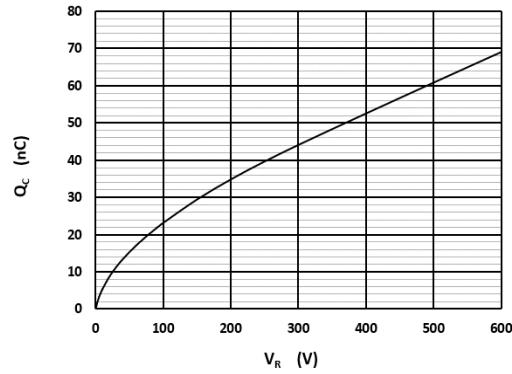
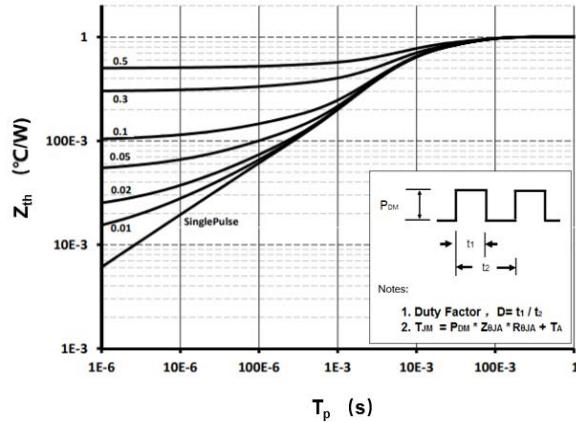


Fig 8: Transient Thermal Impedance

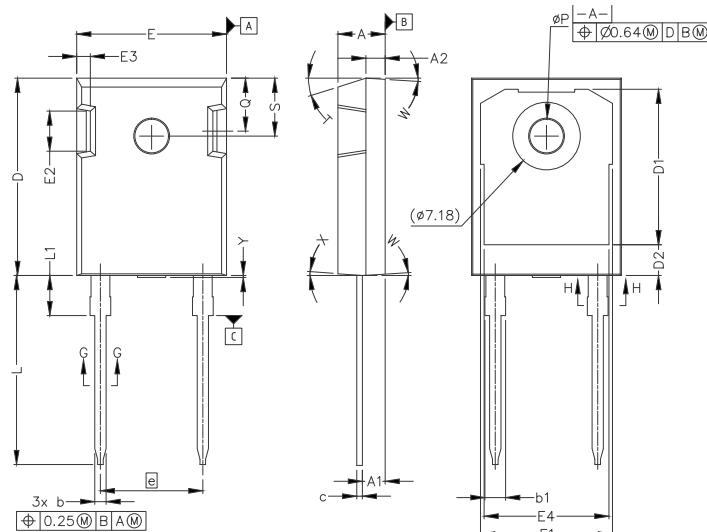




Package Dimensions

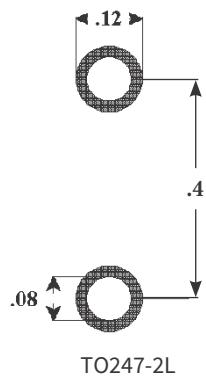
Package: TO247-2L

All dimensions in mm.



SYM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	4.83	5.21	.190	.205
A1	2.29	2.54	.090	.100
A2	1.91	2.16	.075	.085
b'	1.07	1.28	.042	.050
b	1.07	1.33	.042	.052
b1	1.91	2.41	.075	.095
b2	1.91	2.16	.075	.085
c'	0.55	0.65	.022	.026
c	0.55	0.68	.022	.027
D	20.80	21.10	.819	.831
D1	16.25	17.35	.640	.683
D2	2.86	3.16	.112	.124
E	15.75	16.13	.620	.635
E1	13.10	14.15	.516	.557
E2	3.68	5.10	.145	.201
E3	1.00	1.90	.039	.075
E4	12.38	13.43	.487	.529
e	10.88 BSC		.428 BSC	
L	19.81	20.32	.780	.800
L1	4.10	4.40	.161	.173
ØP	3.51	3.65	.138	.144
Q	5.49	6.00	.216	.236
S	6.04	6.30	.238	.248
T	17.5° REF.			
W	3.5° REF.			
X	4° REF.			
Y	0	0.50	0	0.020

Recommended Solder Pad Layout



all units are in inches



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