

800V N-Channel SiC Enhancement Mode MOSFET

MAIN CHARACTERISTICS

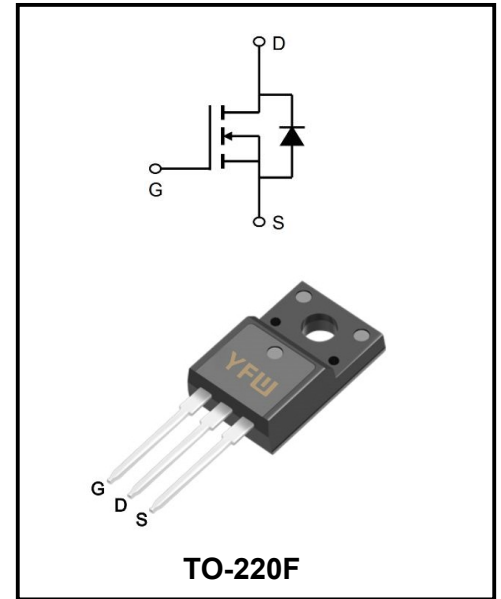
I_D	7A
V_{DS}	800V
R_{DS(on)-typ} (@V _{GS} =18V T _C =25°C)	<780mΩ(Typ:720mΩ)

DESCRIPTION

The YFWM3100080AFG3 is Silicon Carbide MOSFET family that is utilizing charge balance technology for extremely low on-resistance and low gate charge performance. YFWM3100080AFG3 is suitable for applications which require superior power density and outstanding efficiency.

APPLICATIONS

- ◆ Uninterruptible Power Supply (UPS)
- ◆ Power Factor Correction (PFC)



Absolute Maximum Ratings (T_C=25°C unless otherwise noted)

Parameter	Test Condition	Symbol	Value	Unit
Drain to Source Voltage	V _{GS} = 0V, I _D = 100μA	V _{DS}	800V	V
Gate to Source Voltage	Absolute maximum values	V _{GS}	-10V/+22V	V
Recommended Operation Voltage of Gate to Source	Recommended operational values	V _{GSop}	0V~+18V	V
Continuous Drain Current	V _{GS} =15V, T _C =25°C	I _D	7	A
	V _{GS} =15V, T _C =100°C		4	
Pulsed Drain Current	V _{GS} =15V, T _C =25°C	I _{DM}	12	A
Operating and Storage Temperature		T _J , T _{stg}	-55 to +175	°C

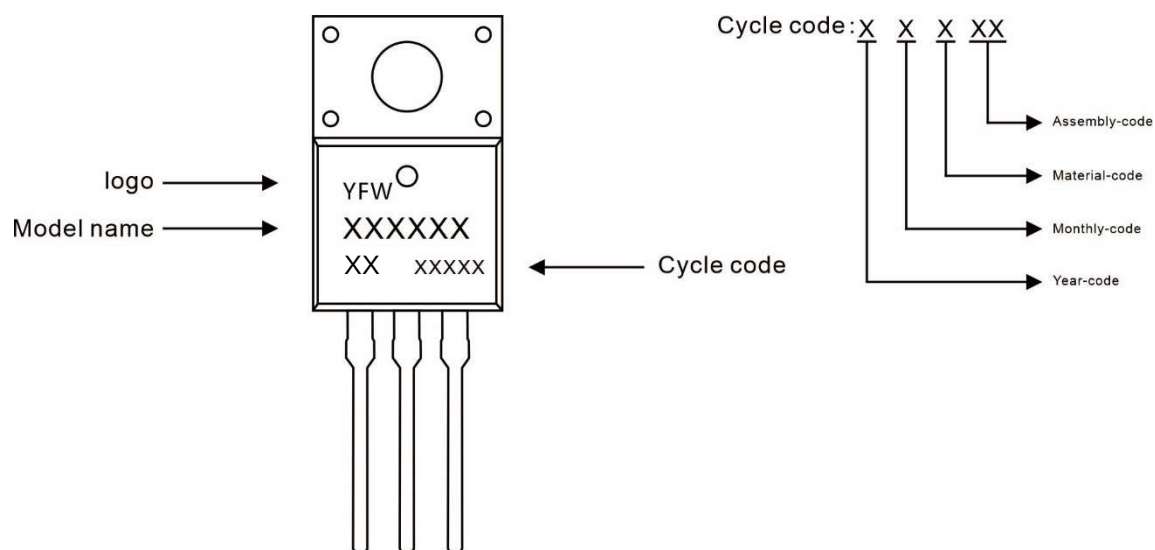
* Note:

- 1) Pulse with T_p limited by T_{Jmax}.
- 2) DC Current is for TO-220F package.

Electrical Characteristics (T_J=25°C, unless otherwise noted)

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Drain to Source Breakdown Voltage	V _{GS} =0V, I _D =500μA	BV _{DSS}	850	-	-	V
Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =0.65mA	V _{GS(th)}	2.7	-	4.5	V
Zero Gate Voltage Drain Current	V _{GS} =0V, V _{DS} =650V, T _J =25°C	I _{DSS}	-	-	10	μA
Gate to Source Leakage Current	V _{GS} =18V, V _{DS} =0V	I _{GSS}	-	-	250	nA
Drain to Source on Resistance	V _{GS} =15V, I _D =1.8A	R _{DS(on)}	-	1000	1250	mΩ
	V _{GS} =15V, I _D =1.8A, T _J =175°C		-	860	-	
	V _{GS} =18V, I _D =1.8A		-	720	780	
	V _{GS} =18V, I _D =1.8A, T _J =175°C		-	820	-	
Drain to Source Reverse Voltage	V _{GS} =0V, I _S =0.9A, T _J =25°C	V _{SD}	-	3.5	-	V

Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFWM3100080AFG3	TO-220F	0.06oz(1.74g)	50pcs/tube	1000PCS/Box 5000PCS/Carton

Package Dimensions

TO-220F

Symbol	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	4.50	4.90	0.177	0.193
A1	2.34	2.74	0.092	0.108
A2	2.66	2.86	0.105	0.113
b	0.75	0.85	0.030	0.033
b1	1.24	1.44	0.049	0.057
c	0.40	0.60	0.016	0.024
D	10.00	10.32	0.394	0.406
E	15.75	16.05	0.620	0.632
e	2.44	2.64	0.096	0.104
e1	4.88	5.28	0.192	0.208
F	3.10	3.5	0.122	0.138
L	13.50	13.90	0.531	0.547
L1	2.90	3.30	0.114	0.130
Φ	3.10	3.30	0.122	0.130

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