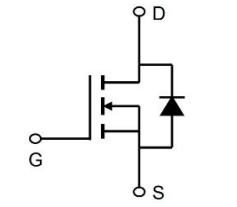
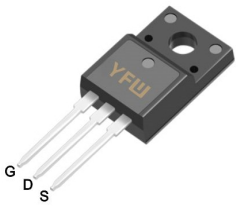
650V N-channel Super Junction MOSFET

MAIN CHARACTERISTICS

I_D	14A
V_{DSS}	650V
R_{DSON}-typ(@V_{GS}=10V)	＜280mΩ(Typ:250mΩ)





TO-220F

FEATURES

- Ultra low RDS(on)
- Ultra low gate charge
- 100% UIS tested

APPLICATION

- Switch Mode Power Supply(SMPS)
- Uninterruptible Power Supply(UPS）
- Power Factor Correction(PFC)

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	650	V
Gate-Source Voltage	V_{GS}	±30	V
Continue Drain Current	I_D	14	A
Pulsed Drain Current (Note1)	I_{DM}	41	A
Power Dissipation	P_D	125	W
Single Pulse Avalanche Energy (Note1)	E_{AS}	270	mJ
Operating Temperature Range	T_J	-50 to +150	°C
Storage Temperature Range	T_{STG}	-50 to +150	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	1	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	66	°C/W

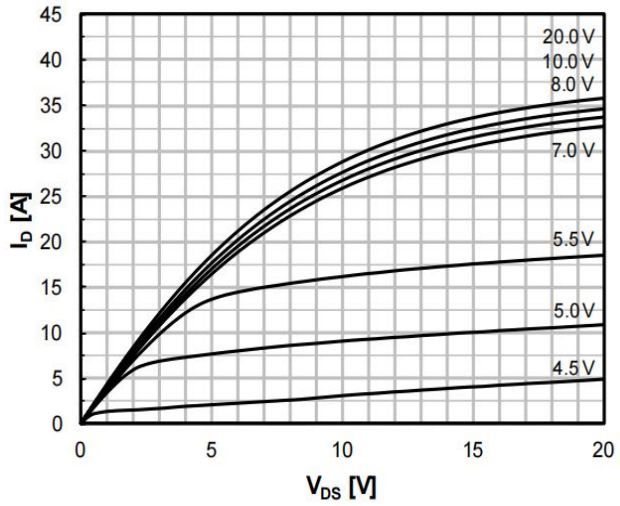
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

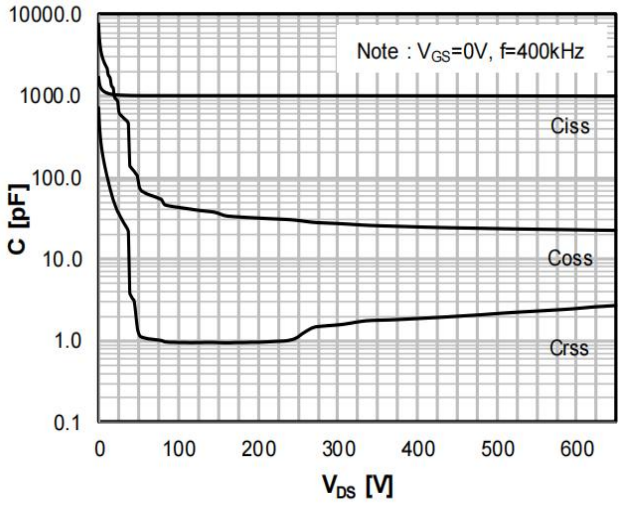
Electrical Characteristics at Tc=25°C unless otherwise specified

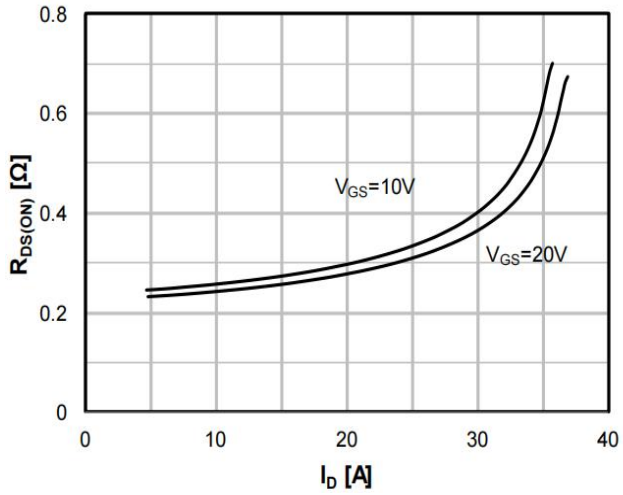
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V_{GS} = 0 V,I_D = 250 μA	BV_{DSS}	650	-	-	V
Drain-Source Leakage Current	V_{DS} =650 V, V_{GS} = 0 V	I_{DSS}	-	-	1	μA
Gate Leakage Current	V_{GS} = ± 30 V, V_{DS} = 0 V	I_{GSS}	-	-	±100	nA
Gate-Source Threshold Voltage	V_{DS} = V_{GS} , I_D = 250 μA	$V_{GS(th)}$	2.5	-	4.5	V
Drain-Source On-State Resistance	V_{GS}=10V, I_D=7.5A	$R_{DS(ON)}$	-	250	280	mΩ
Input Capacitance	V_{DS}=100V V_{GS}=0V f=250KHz	C_{iss}	-	1203	-	pF
Output Capacitance		C_{oss}	-	42	-	
Reverse Transfer Capacitance		C_{rss}	-	0.61	-	
Turn-on Delay Time(Note2)	V_{DD} = 400V I_D = 7.5A V_{GS} =10V R_G =10Ω	$t_{d(on)}$	-	58.7	-	ns
Rise Time(Note2)		T_r	-	13.3	-	
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	54.8	-	
Fall Time(Note2)		t_f	-	7.4	-	
Total Gate Charge(Note2)	V_{DS} = 520V V_{GS} = 10V I_D = 7.5 A	Q_g	-	28	-	nC
Gate to Source Charge(Note2)		Q_{gs}	-	6.3	-	
Gate to Drain Charge(Note2)		Q_{gd}	-	12.1	-	
Drain-Source Diode Forward Voltage	I_{SD} = 7.5A V_{DD} = 400V di/dt = 100A/us	t_{rr}	-	262	-	V
Body Diode Reverse Recovery Time		Q_{rr}	-	2.55	-	ns
Body Diode Reverse Recovery Charge	V_{GS}=0V , I_S=7.5A , T_J=25℃	V_{SD}	-	-	1.1	nC

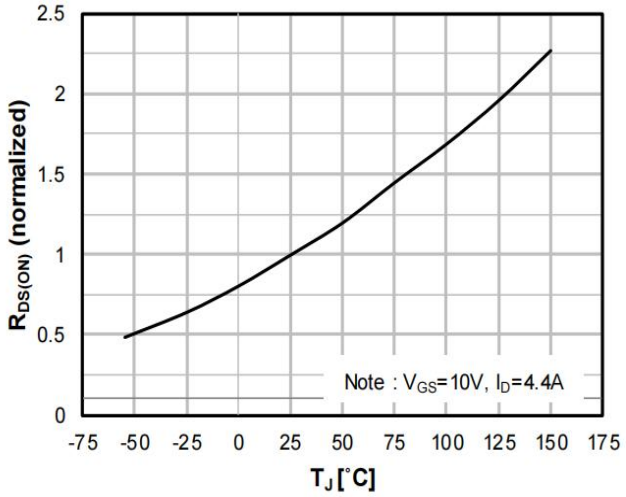
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

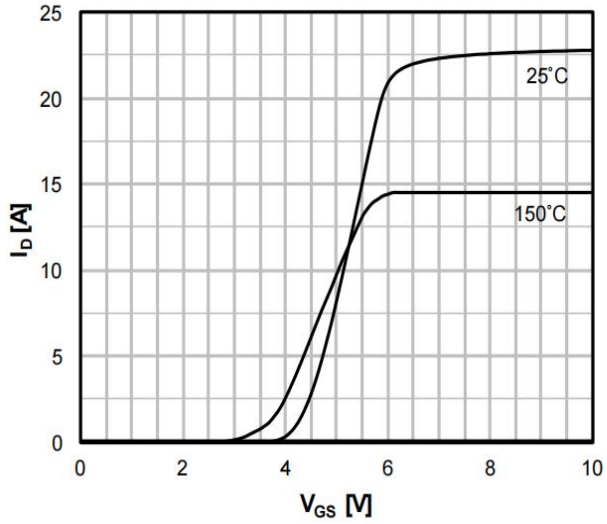
RATINGS AND CHARACTERISTIC CURVES

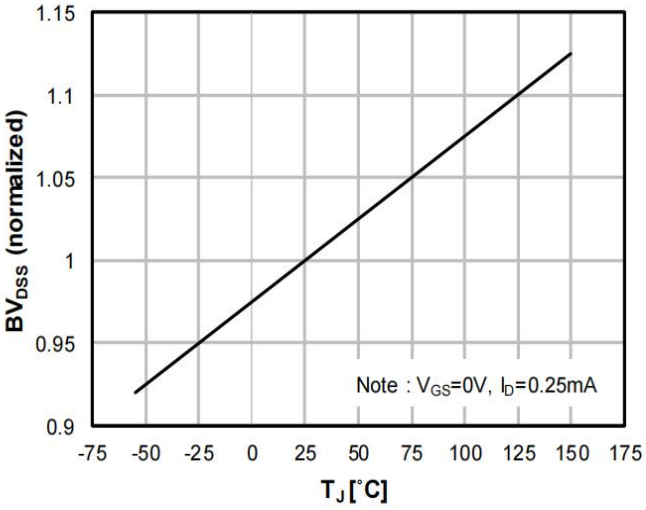




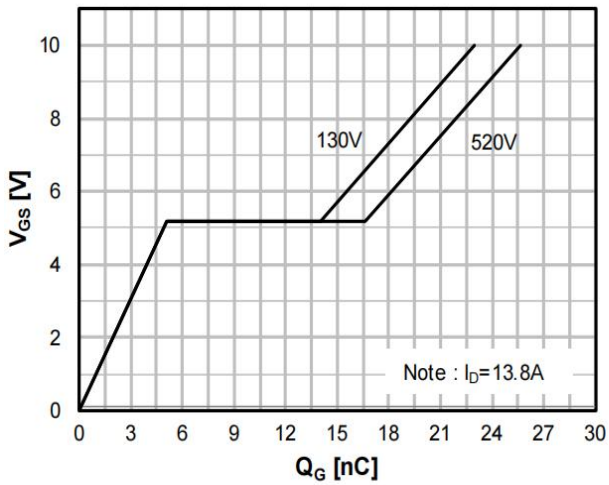


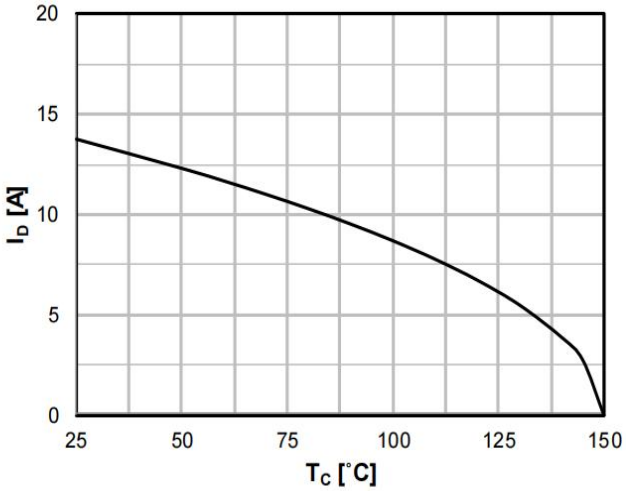


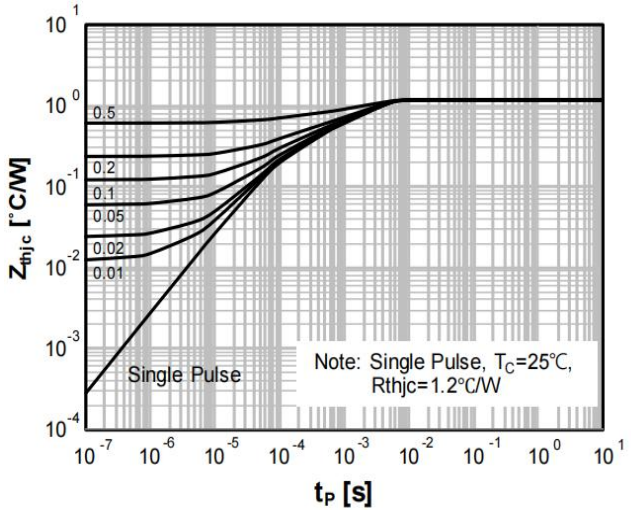


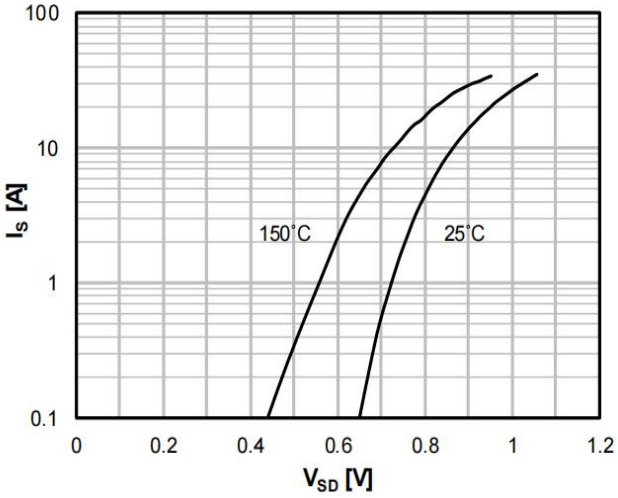


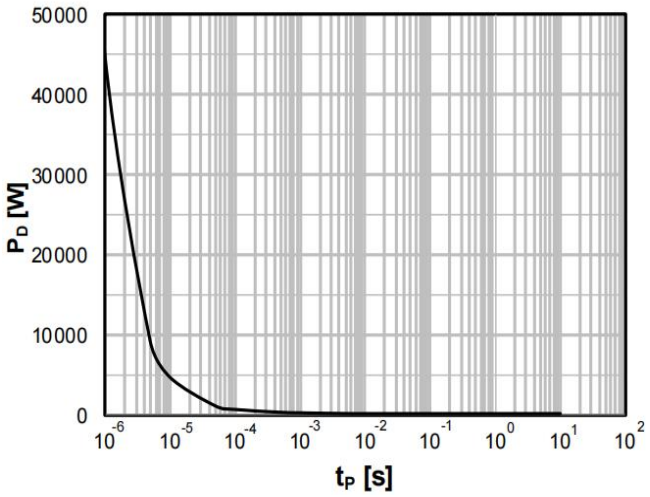
RATINGS AND CHARACTERISTIC CURVES

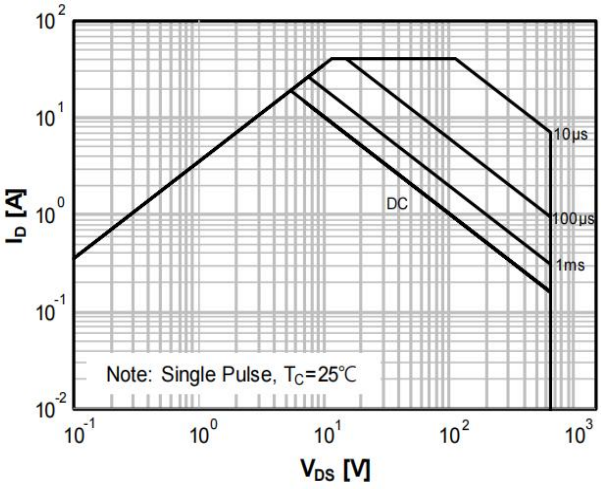




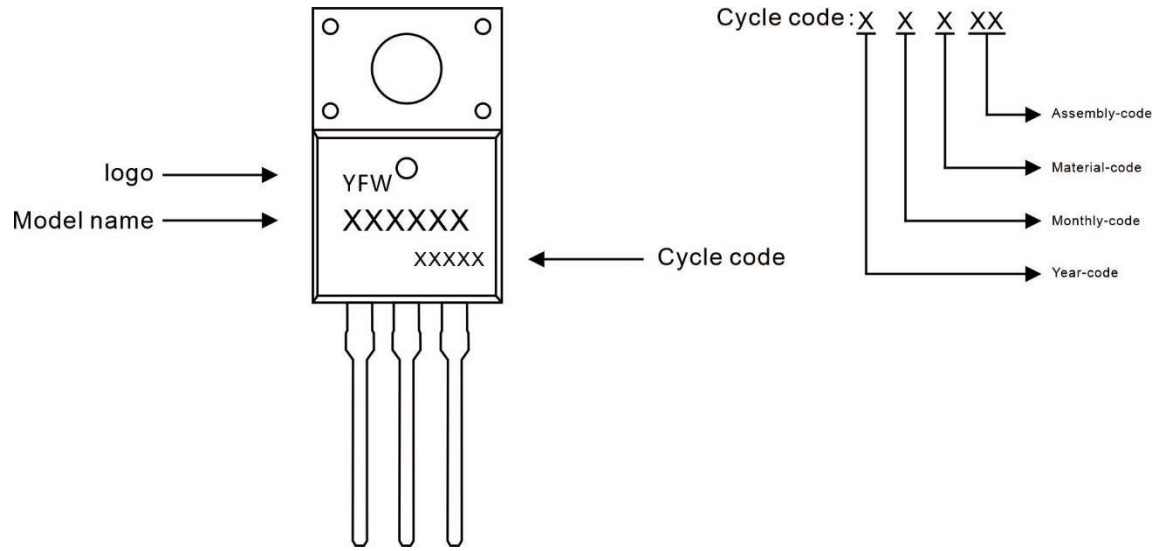








Marking Diagram

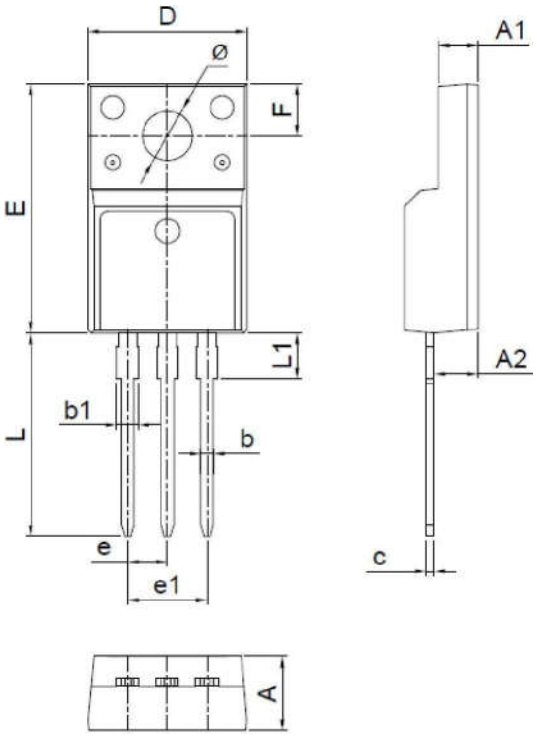


Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW65R280AF	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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