

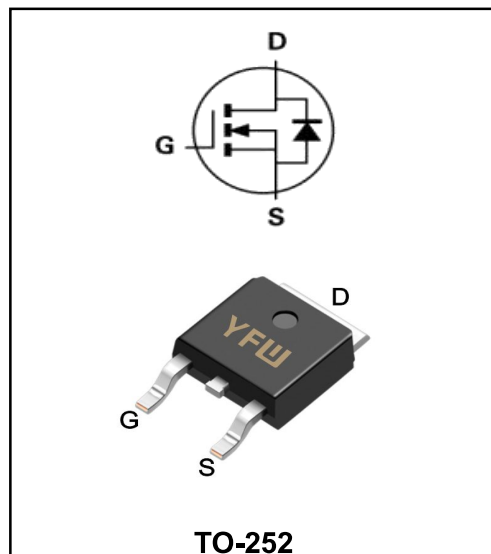
650 N-Channel Super Junction MOSFE

MAIN CHARACTERISTICS

I_D	11A
V_{DSS}	650V
$R_{DS(on)-typ}(@V_{GS}=10V)$	< 380m Ω (Type:340m Ω)

Application

- ♦Solar inverters
- ♦LCD/LED/PDP TV
- ♦Telecom/Server Power supplies
- ♦AC-DC Power Supply



MECHANICAL DATA

- ♦Case: Molded plastic
- ♦Mounting Position: Any
- ♦Molded Plastic: UL Flammability Classification Rating 94V-0
- ♦Lead free in compliance with EU RoHS 2011/65/EU directive
- ♦Solder bath temperature 275°C maximum, 10s per JESD 22-B106

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value	Units
Drain-Source Voltage	V_{DS}	650	V
Gate - Source Voltage	V_{GS}	± 30	V
Continuous Drain Current	I_D	11	A
Pulsed Drain Current(note1)	I_{DM}	31.8	A
Power Dissipation	P_D	84.5	W
Single Pulse Avalanche Energy(note1)	E_{AS}	220	mJ
Operating Temperature Range	T_J	-50 to +150	°C
Storage Temperature Range	T_{STG}	-50 to +150	°C
Thermal Resistance, Junction-to-case	$R_{\theta JC}$	1.48	°C/W
Thermal Resistance, Junction ambient	$R_{\theta JA}$	62	°C/W

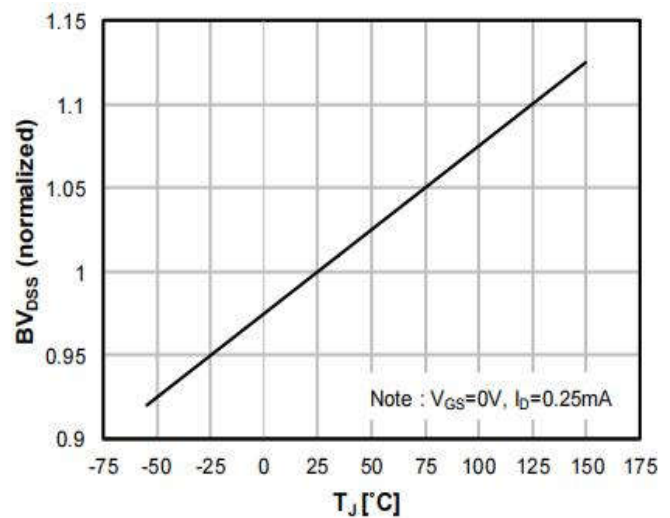
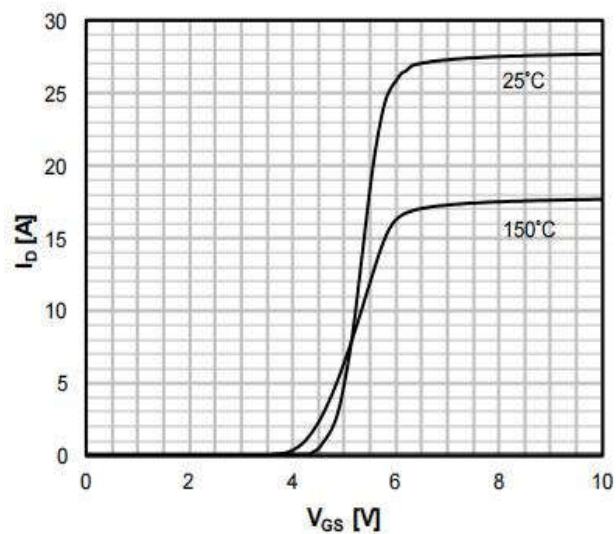
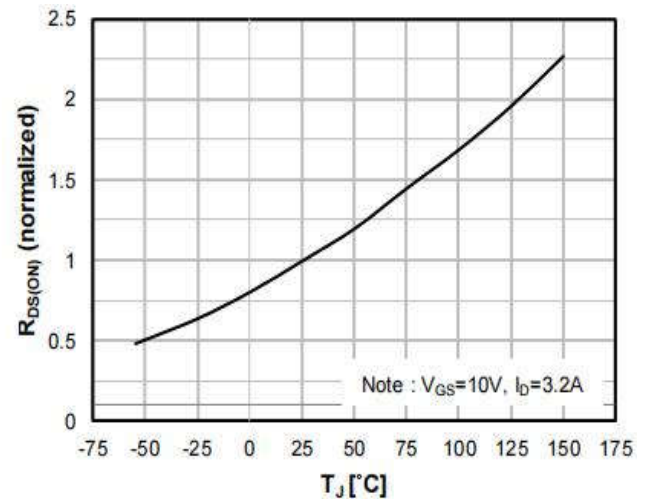
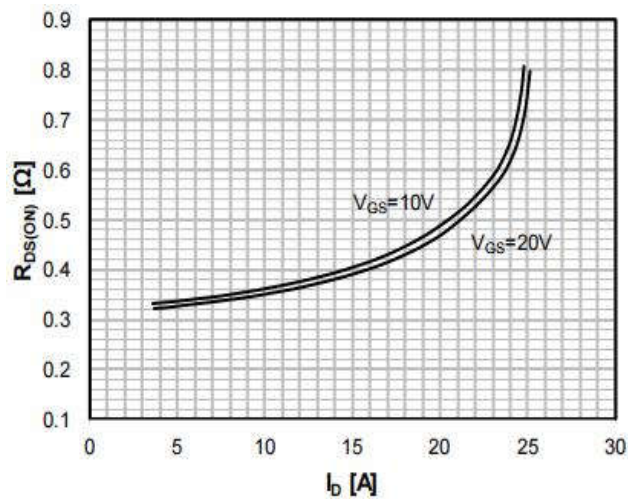
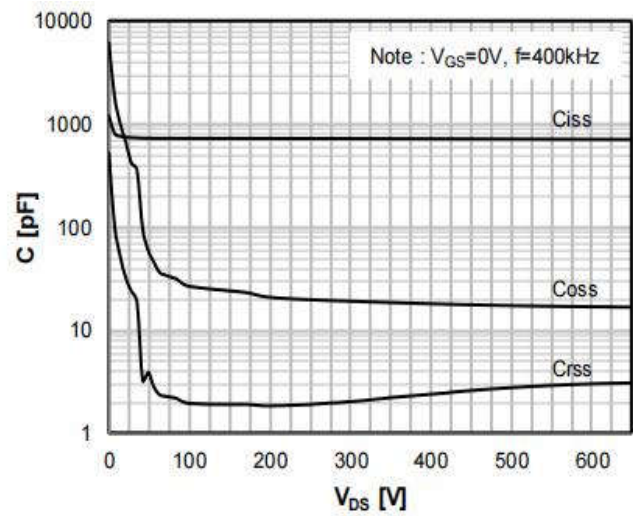
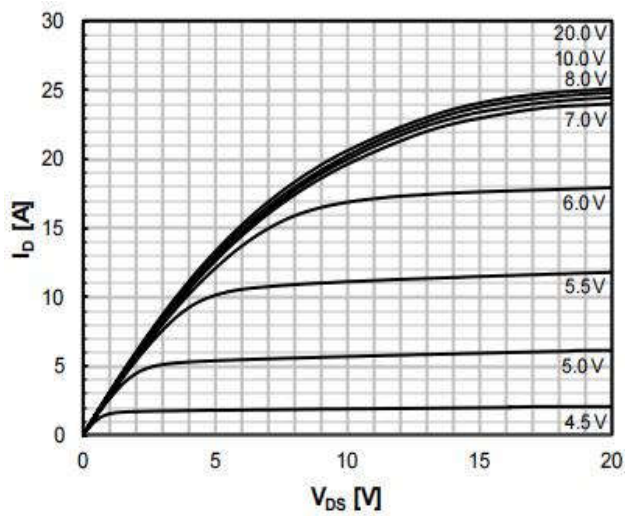
Note1:Pulse test: 300 μ s pulse width, 2 % duty cycle

Maximum Ratings at Tc=25°C unless otherwise specified

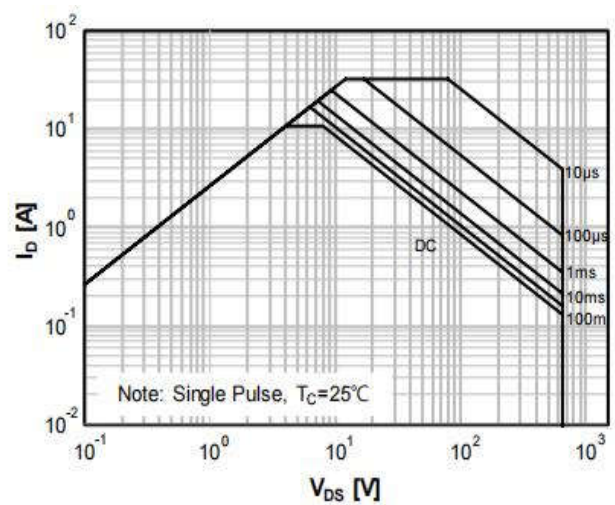
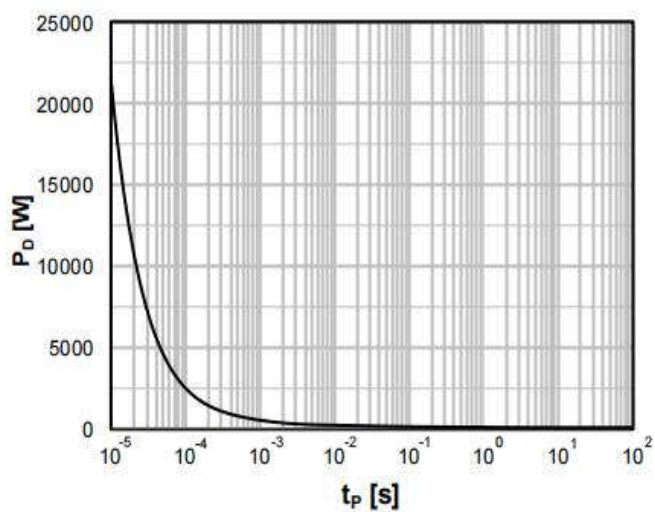
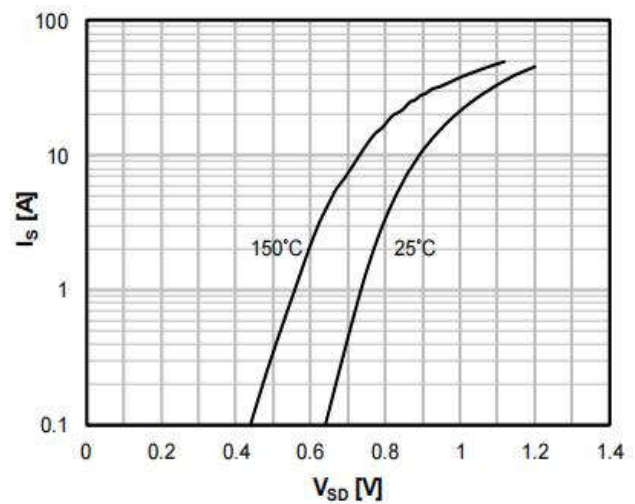
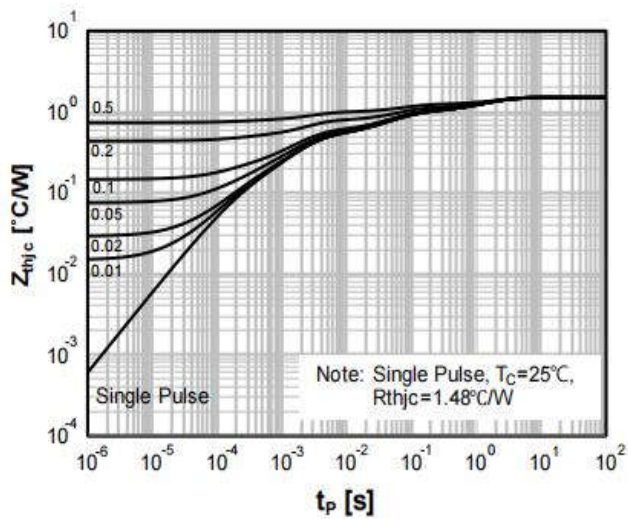
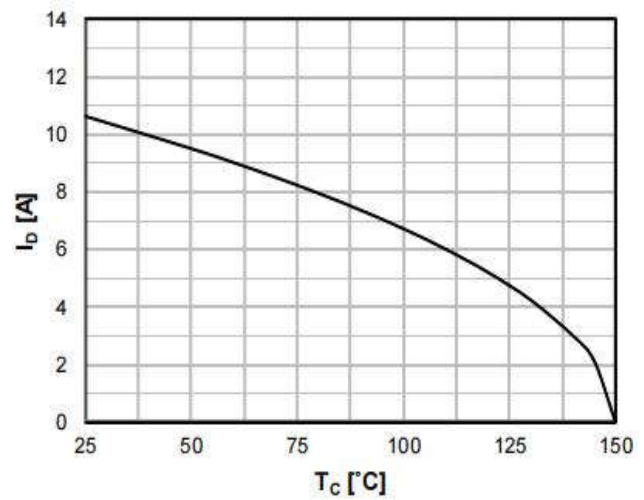
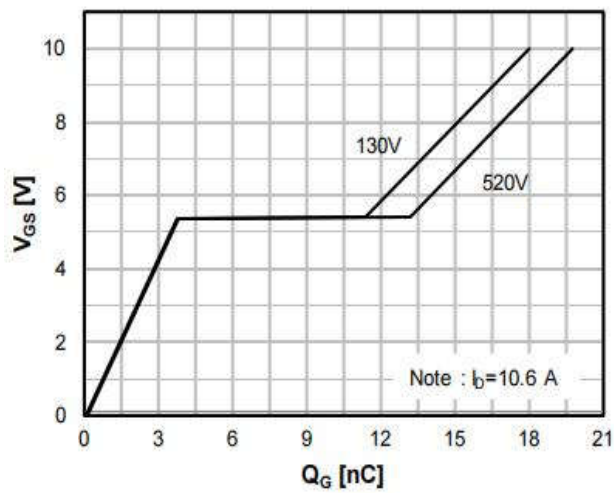
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	650	-	-	V
Drain-Source Leakage Current	$V_{DS}=650V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Source Leakage	$V_{GS}=\pm 30V, V_{DS}=0V$	I_{GSS}	-	-	± 100	nA
Gate- Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	2	-	4	V
Drain-Source On State Resistance	$V_{GS}=10V, I_D=1A$	$R_{DS(ON)}$	-	340	380	m Ω
Input Capacitance	$V_{DS}=50V$ $V_{GS}=0V$ $f=400KHz$	C_{iss}	-	747	-	pF
Output Capacitance		C_{oss}	-	55	-	
Reverse Transfer Capacitance		C_{rss}	-	3.3	-	
Turn-on delay time(note2)	$V_{DD}=325V$ $I_D=11A$ $V_{GS}=10V$ $R_G=25\Omega$	$t_{d(on)}$	-	18	-	nS
Rise Time(note2)		T_r	-	31	-	
Turn-Off Delay Time(note2)		$t_{d(OFF)}$	-	65	-	
Fall Time(note2)		t_f	-	28	-	
Total Gate Charge(note2)	$V_{DS}=520V$ $I_D=11A$ $V_{GS}=10V$	Q_g	-	20	-	nC
Gate-Source Charge(note2)		Q_{gs}	-	3.7	-	
Gate-Drain Charge(note2)		Q_{gd}	-	9	-	
Reverse Recovery Time	$V_{DD} = 100V, I_{SD} = 11A$ $di/dt = 100A/\mu s$	t_{rr}	-	323	-	nS
Reverse recovery current		I_{rr}	-	17.5	-	A
Reverse Recovery Charge		Q_{rr}	-	2.8	-	μC
Drain-Source Diode Forward Voltage	$T_J = 25^\circ C, I_S = 10.6A, V_{GS} = 0V$	V_{SD}	-	1.4	-	V

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

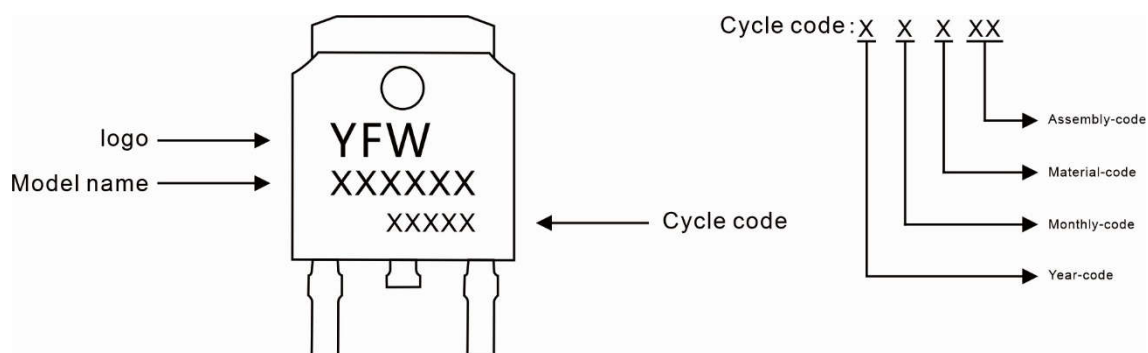
Ratings and Characteristic Curves



Ratings and Characteristic Curves



Marking Diagram



Ordering information

Model name	Package	Unit Weight	Base Quantity	Packing Quantity
YFW65R380AD	TO-252	0.011oz(0.32g)	2500pcs/reel	5000pcs/box 25000pcs/Carton

Package Dimensions

TO-252

Dim	Millimeter		Inches	
	Min.	Max.	Min.	Max.
A	2.20	2.50	0.087	0.098
A1	0.00	0.12	0.000	0.005
A2	2.20	2.40	0.087	0.094
B	1.20	1.60	0.047	0.063
b	0.50	0.70	0.020	0.028
b1	0.70	0.90	0.028	0.035
c	0.40	0.60	0.016	0.024
c1	0.40	0.60	0.016	0.024
D	6.35	6.65	0.250	0.262
D1	5.20	5.40	0.205	0.213
E	5.40	5.70	0.213	0.224
e	2.20	2.40	0.087	0.094
e1	4.40	4.80	0.173	0.189
L	10.00	11.00	0.393	0.433
L1	2.70	3.10	0.106	0.122
L2	1.40	1.80	0.055	0.071
L3	0.90	1.50	0.035	0.059

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