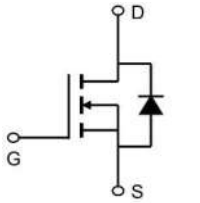
650 N-Channel Super Junction MOSFE

MAIN CHARACTERISTICS

I_D	11A
V_{DSS}	650V
R_{DSON}-typ(@V_{GS}=10V)	< 380mΩ(Type:340mΩ)



TO-252

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℃ maximum,10s per JESD 22-B106

Product Specification Classification

Part Number	Package	Marking	Pack
YFW65R380AD	TO-252	YFW 65R380AD XXXXX	2500PCS/Tape

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

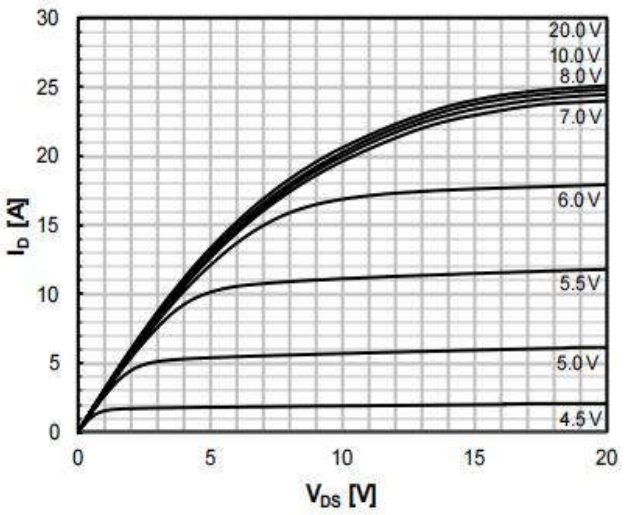
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

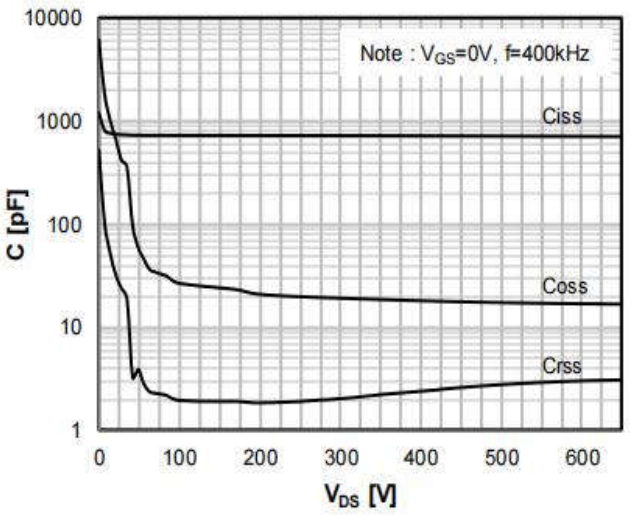
Maximum Ratings at Tc=25°C unless otherwise specified

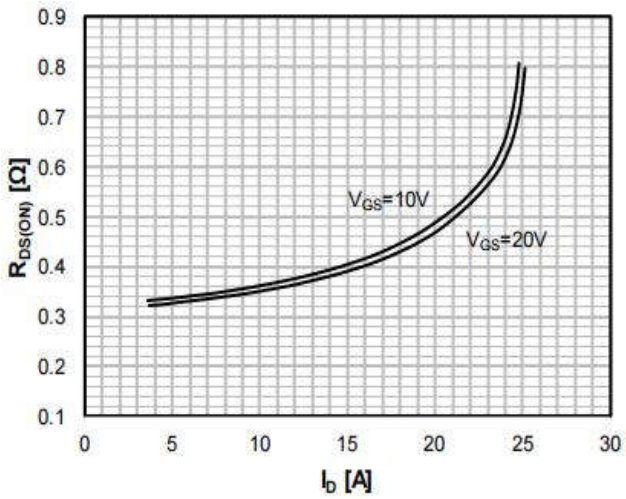
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V_{GS}=0V, I_D=250uA	BV_{DSS}	650	-	-	V
Drain-Source Leakage Current	V_{DS}=650V , V_{GS}=0V	I_{DSS}	-	-	1	μA
Gate-Source Leakage	V_{GS}=±30V, V_{DS}=0V	I_{GSS}	-	-	±100	nA
Gate- Source Threshold Voltage	V_{DS}= V_{GS}, I_D=250μA	$V_{GS(th)}$	2	-	4	V
Drain-Source On State Resistance	V_{GS}=10V, I_D=1A	$R_{DS(ON)}$	-	340	380	mΩ
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=25Ω	$t_{d(on)}$	-	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 /μs	t_{rr}	-	323	-	nS
Reverse recovery current		I_{rr}	-	17.5	-	A
Reverse Recovery Charge		Q_{rr}	-	2.8	-	uC
Drain-Source Diode Forward Voltage	T_J = 25°C, I_S = 10.6A, V_{GS} = 0V	V_{SD}	-	1.4	-	V

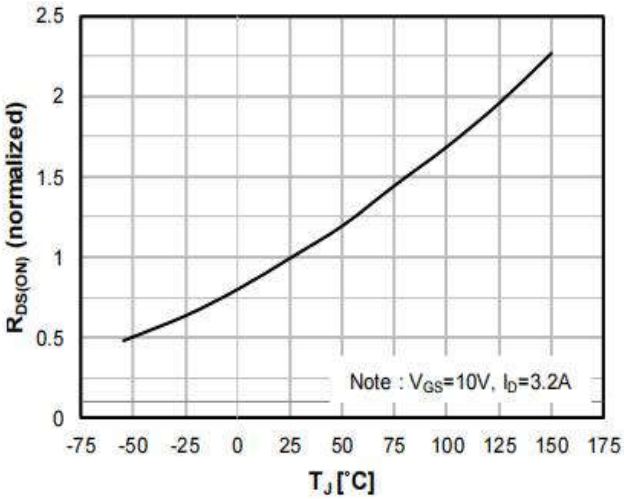
Note2:Pulse test: 300 μs pulse width, 2 % duty cycle

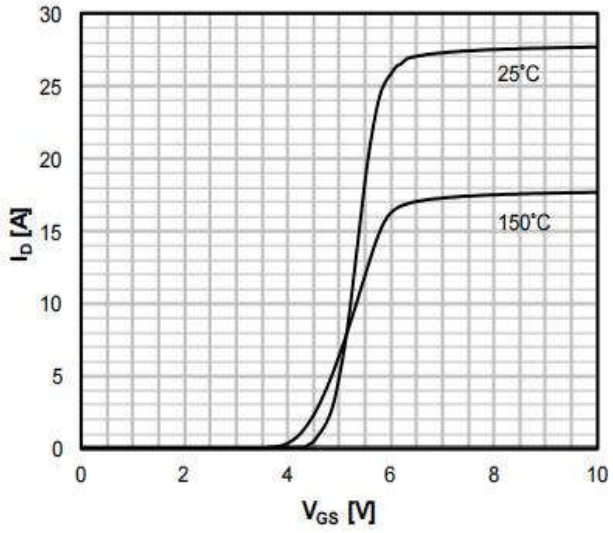
Ratings and Characteristic Curves

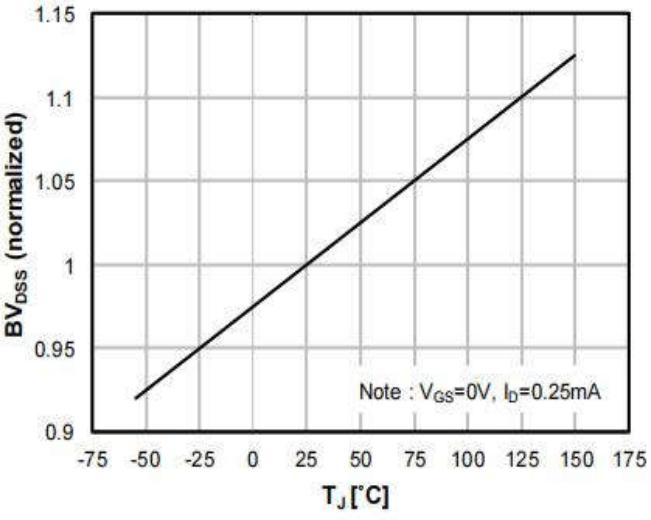




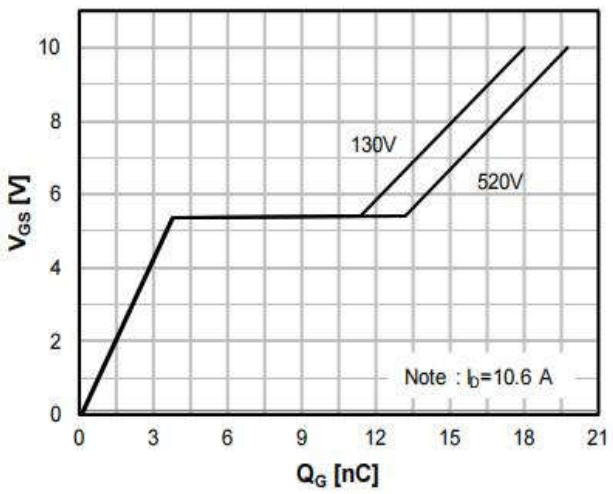


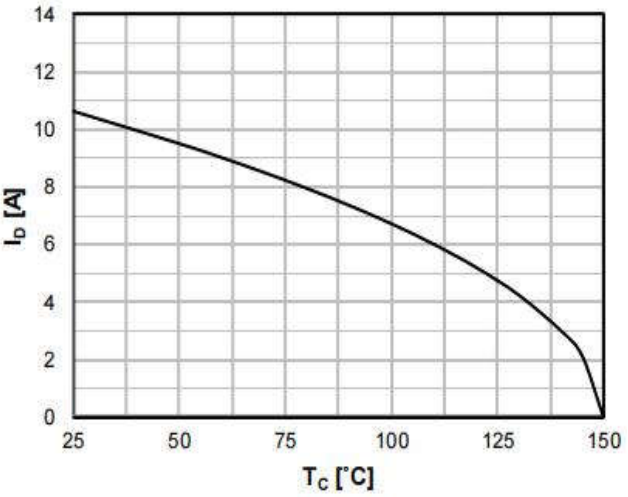


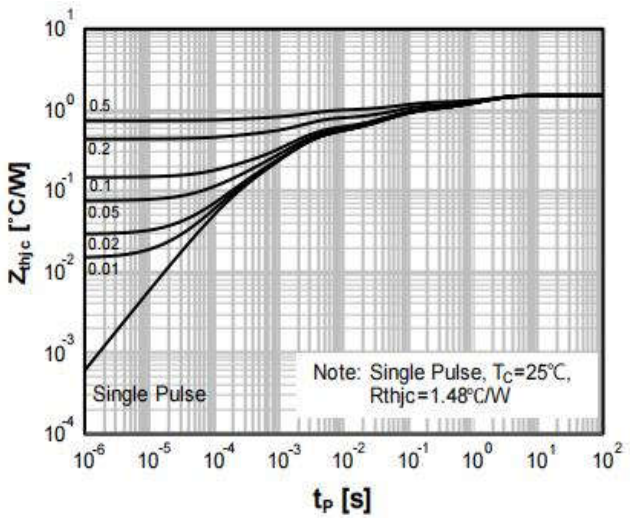


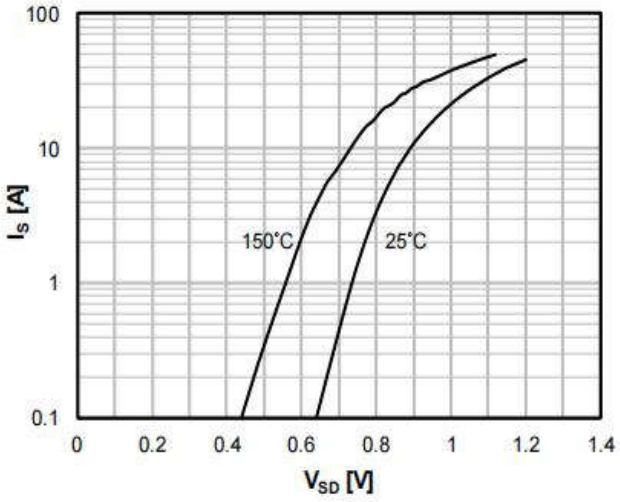


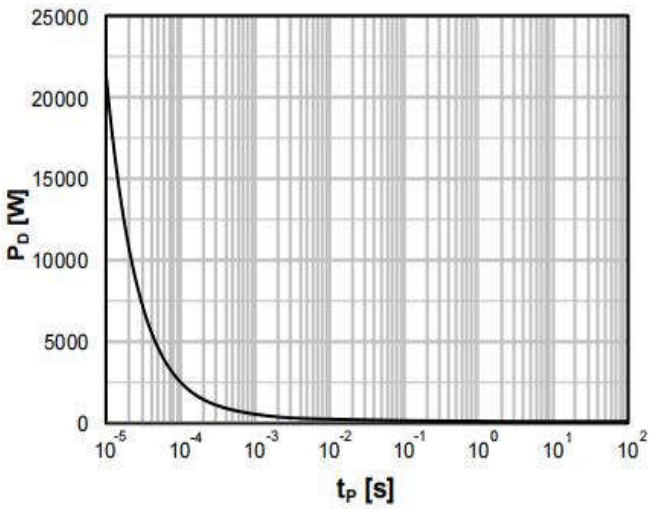
Ratings and Characteristic Curves

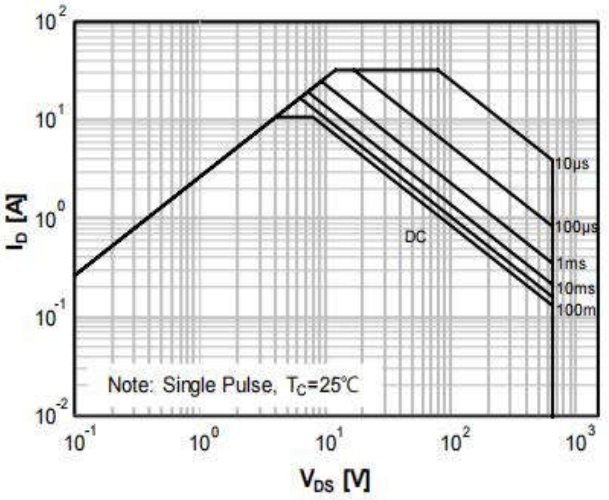












Package Outline Dimensions Millimeters

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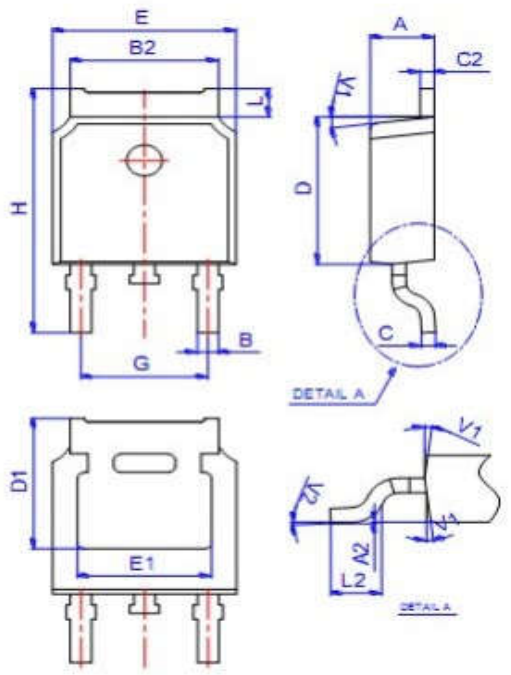

Dim.	Min.	Typ.	Max.
A	2.10	-	2.50
A2	0	-	0.10
B	0.66	-	0.86
B2	5.18	-	5.48
C	0.40	-	0.60
C2	0.44	-	0.58
D	5.90	-	6.30
D1	5.30REF		
E	6.40	-	6.80
E1	4.63	-	-
G	4.47	-	4.67
H	9.50	-	10.70
L	1.09	-	1.21
L2	1.35	-	1.65
V1	-	7°	-
V2	0°	-	6°

All Dimensions in millimeter