

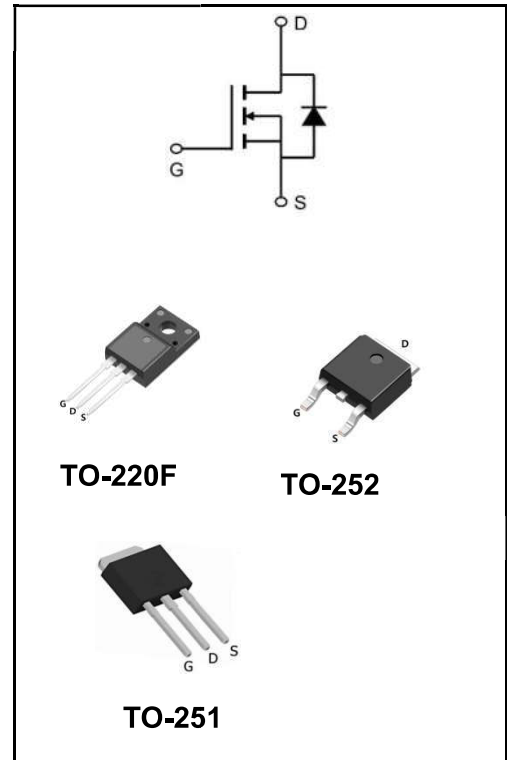
650V N-Channel Super Junction MOSFE

MAIN CHARACTERISTICS

I_D	7 A
V_{DSS}	650V
R_{DS(on)-typ}(@V_{GS}=10V)	< 600mΩ(Type:530mΩ)

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

Product Specification Classification

Part Number	Package	Marking	Pack
YFW65R600AF	TO-220F	YFW 65R600AF XXXXX	1000PCS/Tape
YFW65R600AD	TO-252	YFW 65R600AD XXXXX	2500PCS/Tape
YFW65R600AMJ	TO-251	YFW 65R600AMJ XXXXX	4000PCS/Tape

Maximum Ratings at Tc=25°C unless otherwise specified

Characteristics	Symbols	Value		Units
		220F	252/251	
Drain-Source Voltage	V _{DS}	650		V
Gate - Source Voltage	V _{GS}	±30		V
Continuous Drain Current	I _D	7		A
Pulsed Drain Current(note1)	I _{DM}	24		A
Power Dissipation	P _D	28	64	W
Single Pulse Avalanche Energy(note1)	E _{AS}	129		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 _{θJC}	4.8	1.97	°C/W
Thermal Resistance, Junction ambient	R _{θJA}	62		°C/W

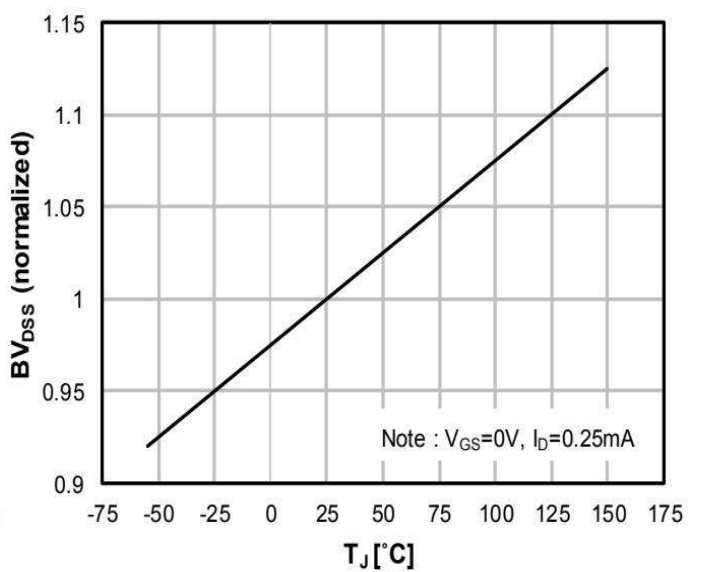
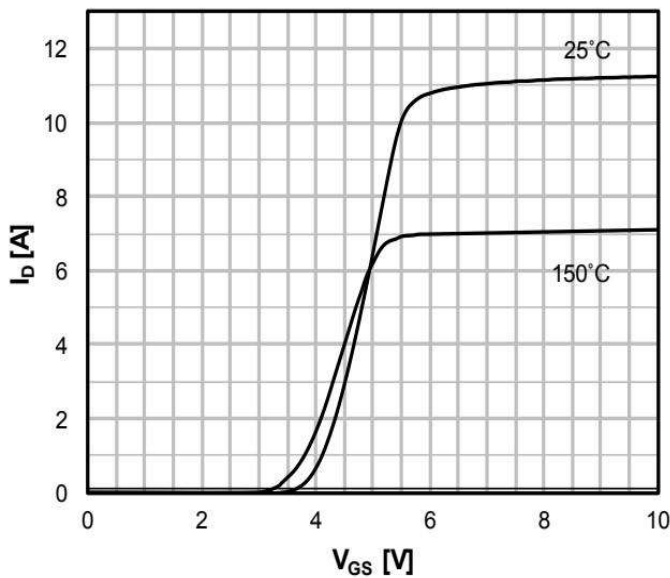
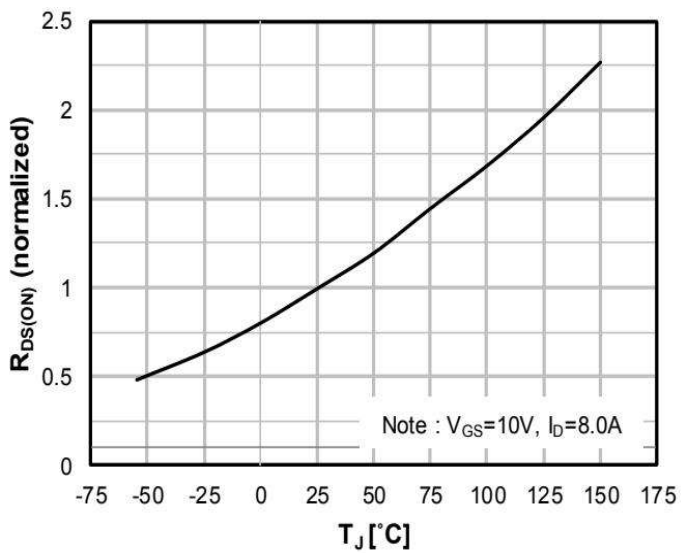
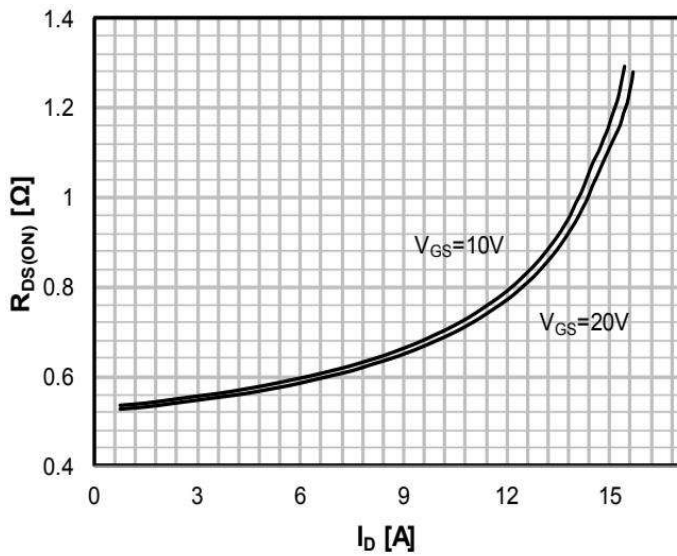
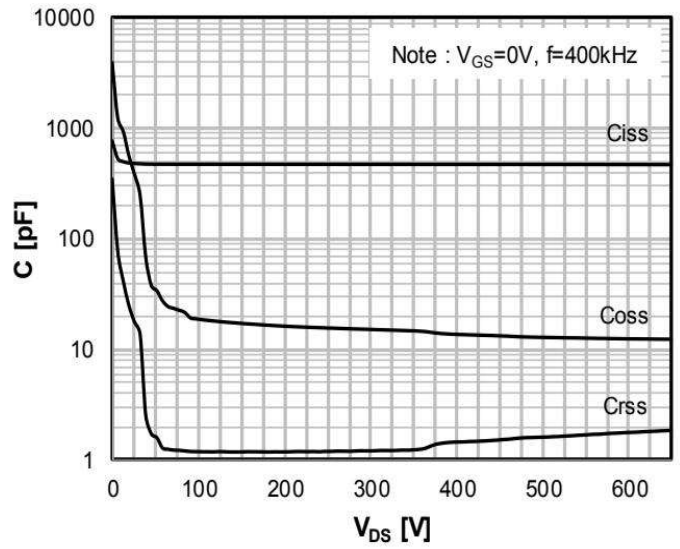
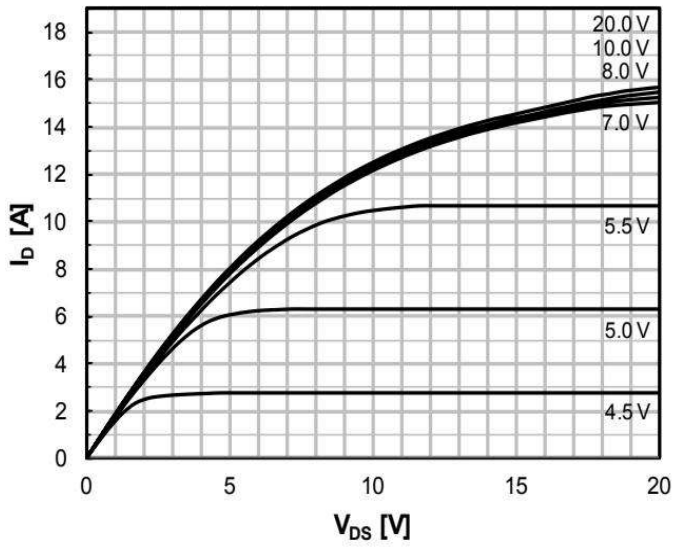
Note1:Pulse test: 300 μs pulse width, 2 % duty cycle

Maximum Ratings at Tc=25°C unless otherwise specified

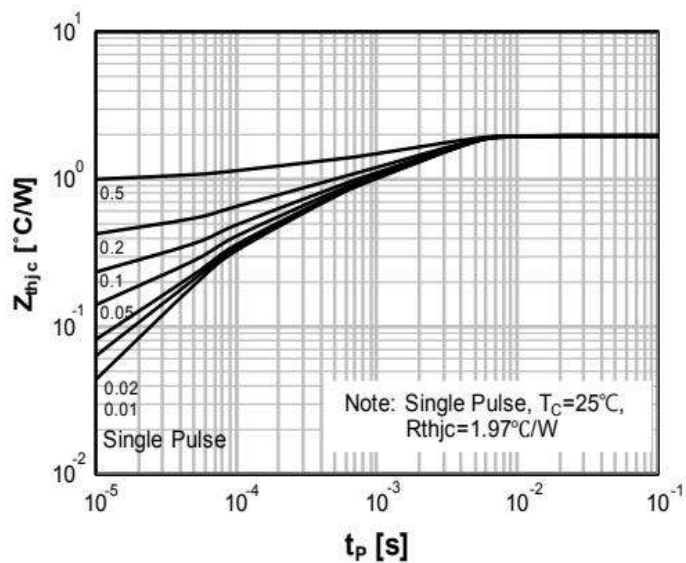
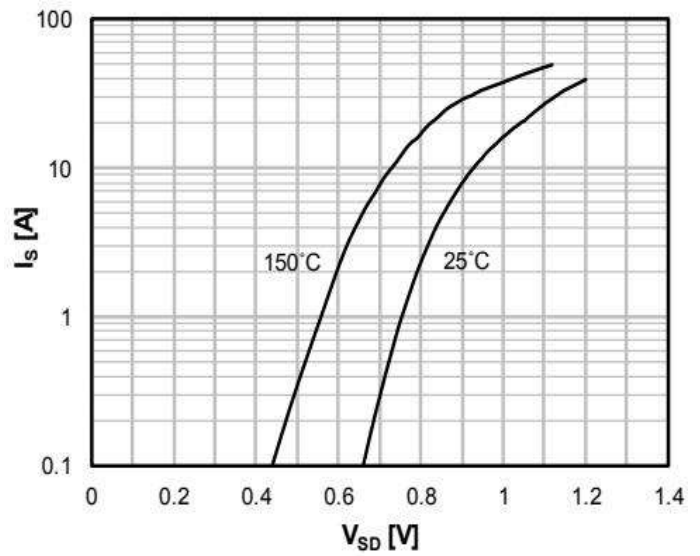
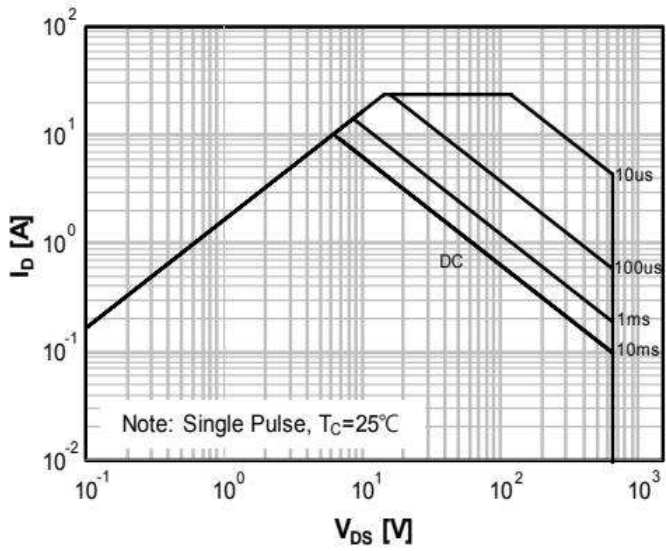
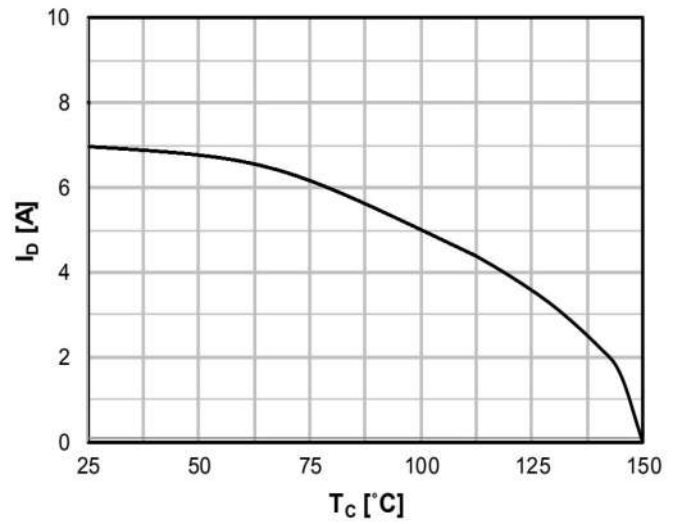
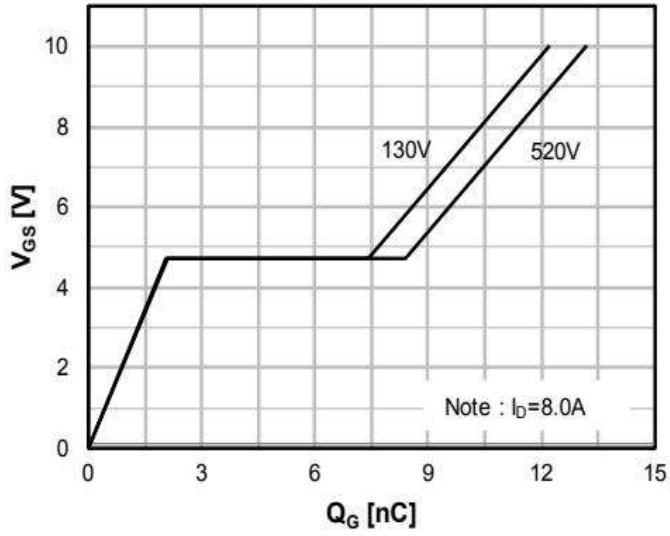
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =250uA	BV _{DSS}	650	-	-	V
Drain-Source Leakage Current	V _{DS} =650V, V _{GS} =0V	I _{DSS}	-	-	1	μA
Gate-Source Leakage	V _{GS} =±30V, V _{DS} =0V	I _{GSS}	-	-	±100	nA
Gate- Source Threshold Voltage	V _{DS} = V _{GS} , I _D =250μA	V _{GS(th)}	2	-	4	V
Drain-Source On State Resistance	V _{GS} =10V, I _D =3.5A	R _{DS(ON)}	-	530	600	mΩ
Forward Transconductance	V _{DS} = 5 V, I _D = 2A	g _{fs}	-	-	8	S
Input Capacitance	V _{DS} =50V V _{GS} =0V f=1MHz	C _{iss}	-	471	-	PF
Output Capacitance		C _{oss}	-	35	-	
Reverse Transfer Capacitance		C _{rss}	-	1.7	-	
Turn-on delay time(note2)	V _{DD} =325V V _{GS} =10V R _G =25Ω I _D =7A	t _{d(on)}	-	17	-	nS
Rise Time(note2)		T _r	-	26	-	
Turn-Off Delay Time(note2)		t _{d(OFF)}	-	53	-	
Fall Time(note2)		t _f	-	38	-	
Total Gate Charge(note2)	V _{DS} =520V V _{GS} =10V I _D =7A	Q _g	-	13	-	nC
Gate-to Source Charge(note2)		Q _{gs}	-	2.1	-	
Gate-Drain Charge(note2)		Q _{gd}	-	6.9	-	
Maximun Body-Diode Continuous Current		I _S	-	-	7	A
Maximun Body-Diode Pulsed Current(Note2)		I _{SM}	-	-	24	A
Drain-Source Diode Forward Voltage	T _J = 25°C, I _S = 3.5A, V _{GS} = 0V	V _{SD}	-	-	1.4	V

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

Ratings and Characteristic Curves

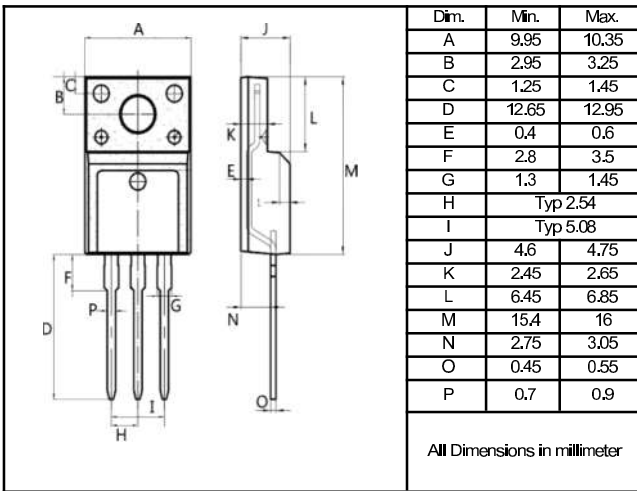


Package Outline Dimensions Millimeters

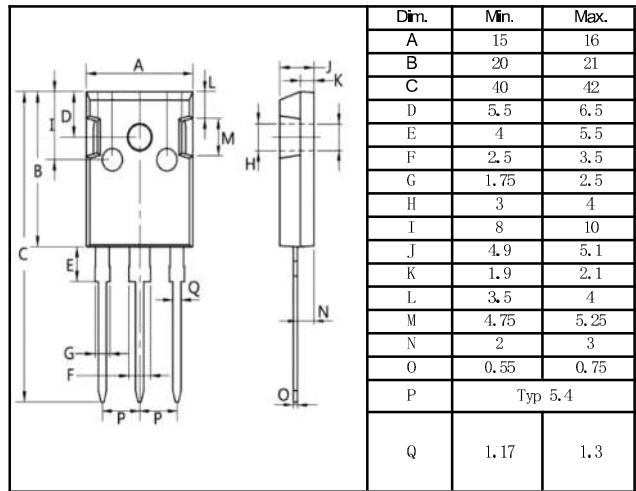


Package Outline Dimensions Millimeters

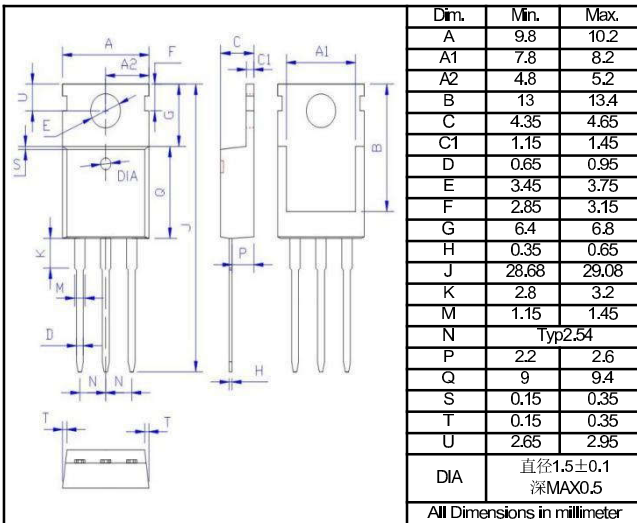
T0-220F



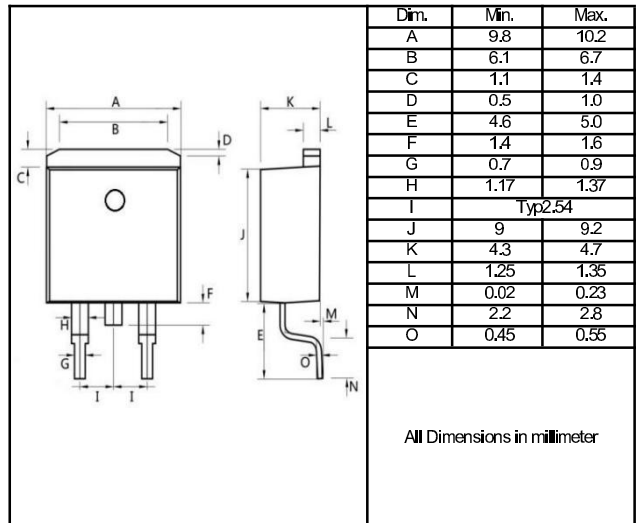
T0-247



T0-220C



T0-263C



Package Outline Dimensions Millimeters

TO-252

	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				