

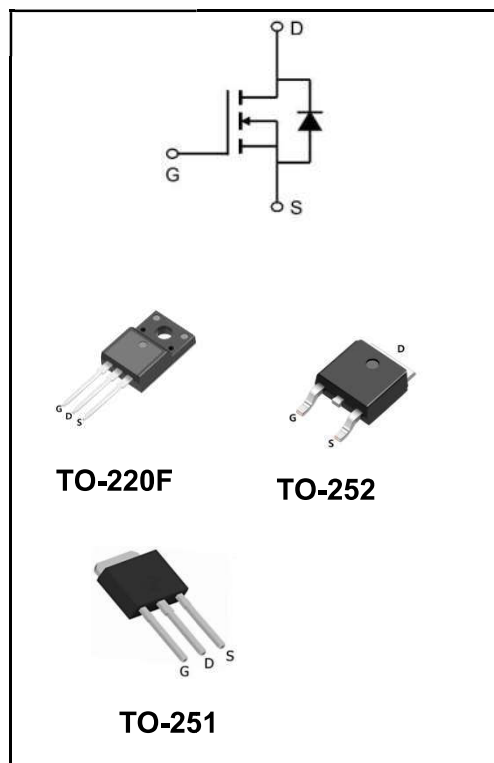
650V N-Channel Super Junction MOSFE

MAIN CHARACTERISTICS

I_D	7 A
V_{DSS}	650V
$R_{DS(on)-typ}(@V_{GS}=10V)$	< 600m Ω (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	$R_{\theta JC}$	4.8	1.97	°C/W
Thermal Resistance, Junction ambient	$R_{\theta JA}$	62		°C/W

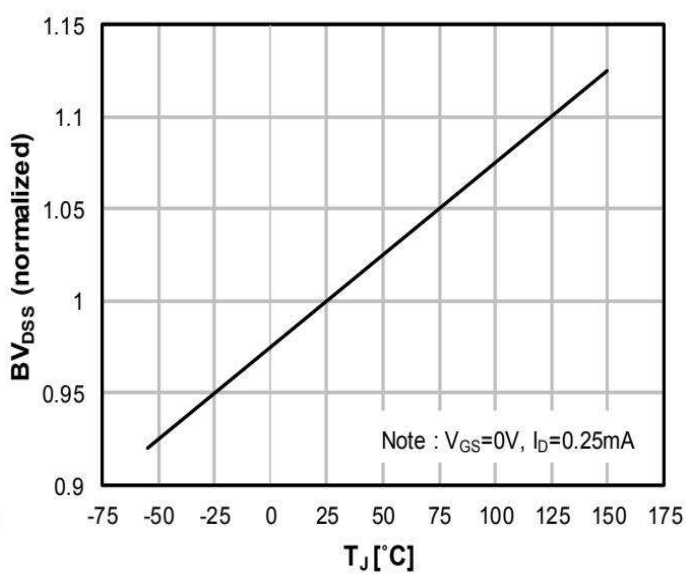
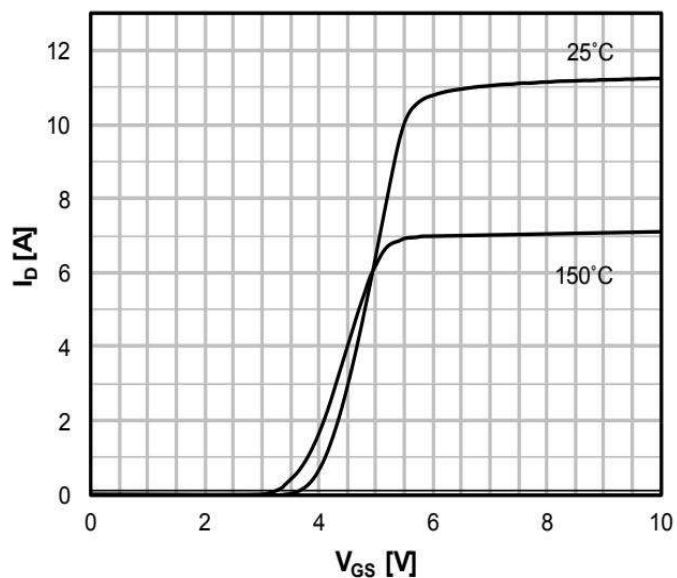
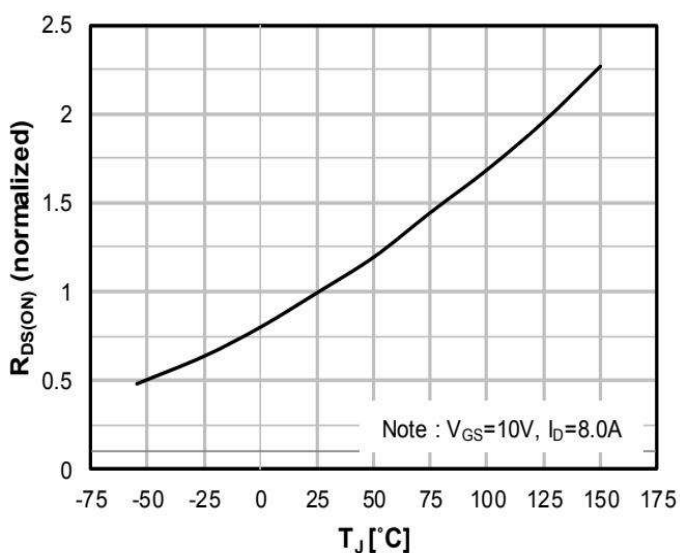
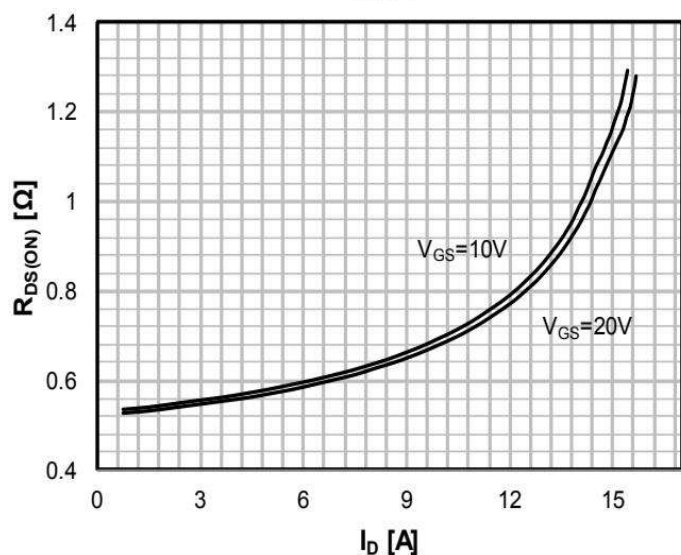
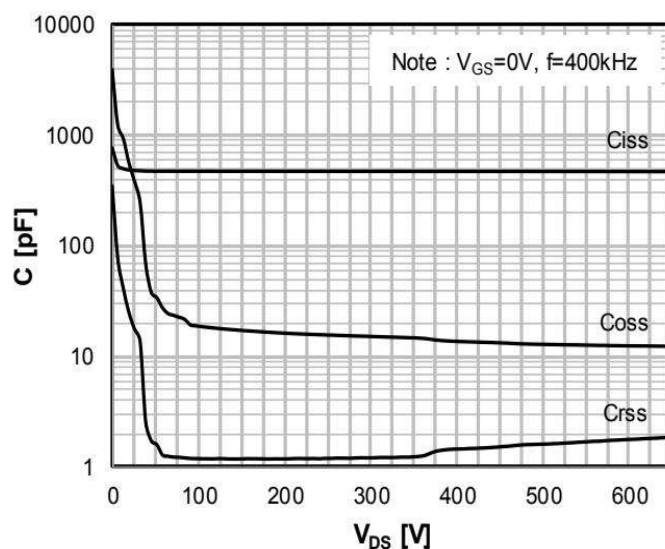
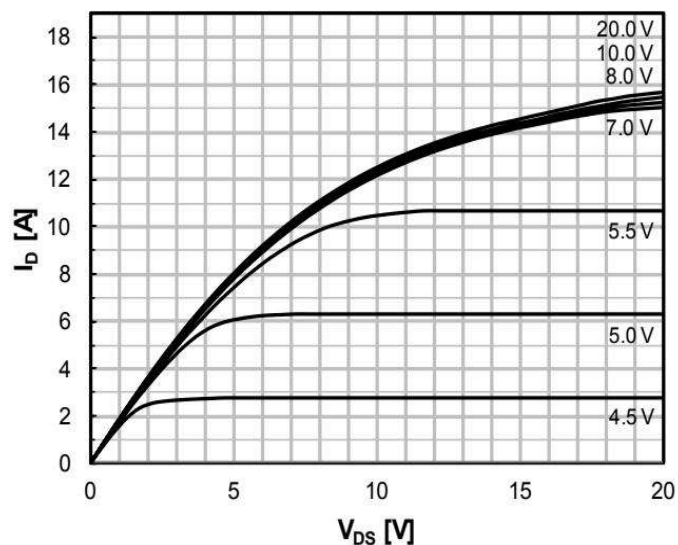
Note1:Pulse test: 300 μ s pulse width, 2 % duty cycle

Maximum Ratings at Tc=25°C unless otherwise specified

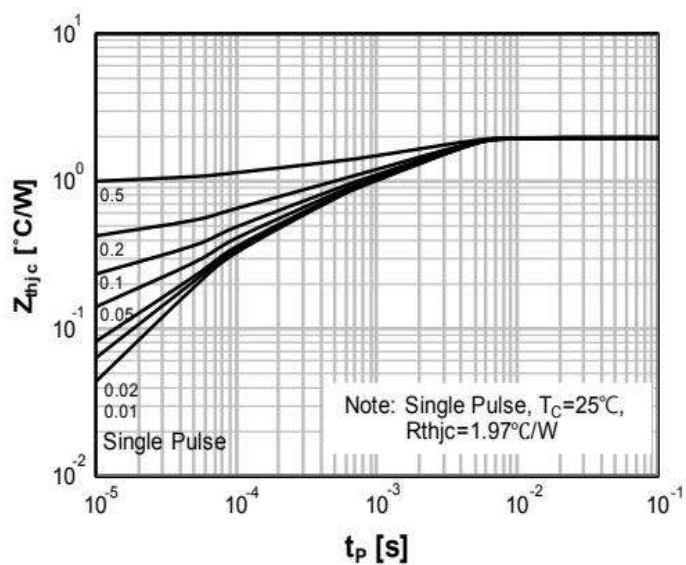
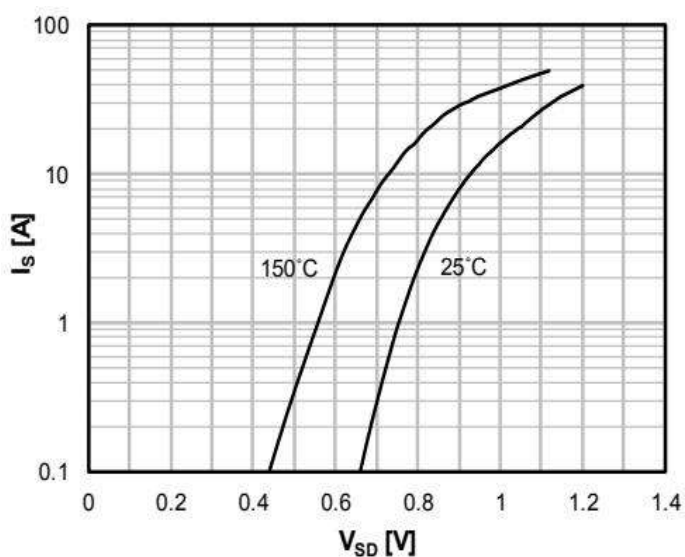
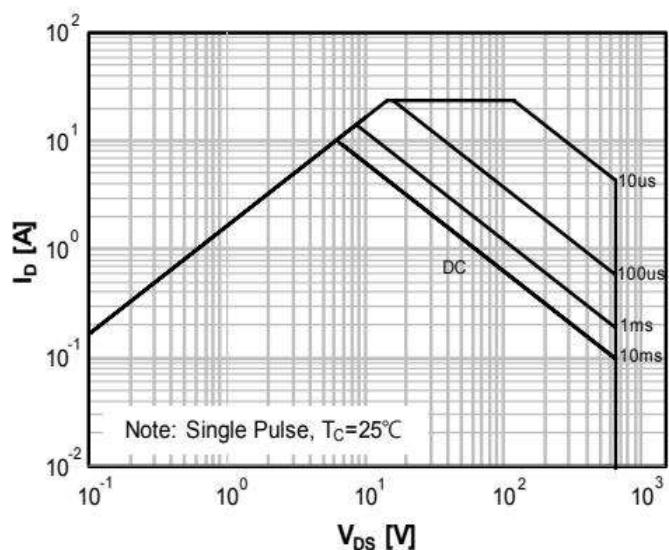
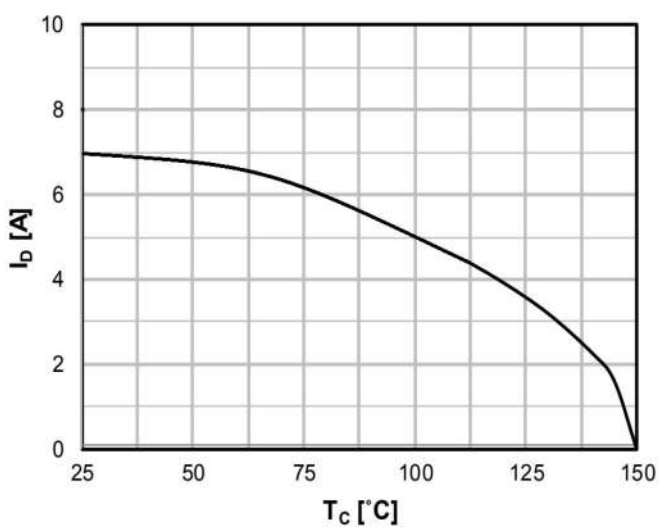
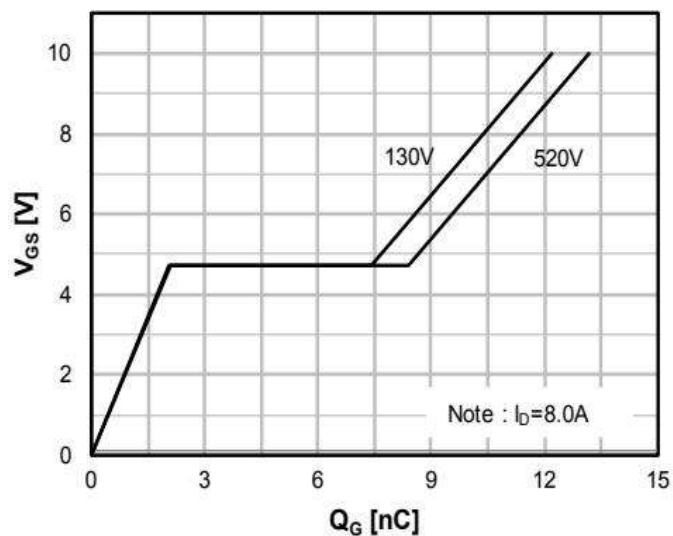
Characteristics	Test Condition	Symbols	Min	Typ	Max	Units
Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=250\mu A$	BV_{DSS}	650	-	-	V
Drain-Source Leakage Current	$V_{DS}=650V, V_{GS}=0V$	I_{DSS}	-	-	1	μA
Gate-Source Leakage	$V_{GS}=\pm 30V, V_{DS}=0V$	I_{GSS}	-	-	± 100	nA
Gate- Source Threshold Voltage	$V_{DS}=V_{GS}, I_D=250\mu A$	$V_{GS(th)}$	2	-	4	V
Drain-Source On State Resistance	$V_{GS}=10V, I_D=3.5A$	$R_{DS(on)}$	-	530	600	m Ω
Forward Transconductance	$V_{DS}=5V, I_D=2A$	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)	$V_{DD}=325V$ $V_{GS}=10V$ $R_G=25\Omega$ $I_D=7A$	$t_{d(on)}$	-	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	$T_J=25^\circ C, I_S=3.5A, V_{GS}=0V$	V_{SD}	-	-	1.4	V

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

Ratings and Characteristic Curves

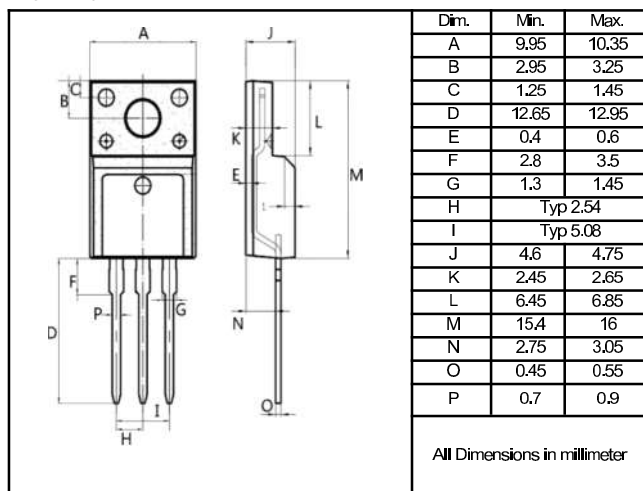


Package Outline Dimensions Millimeters

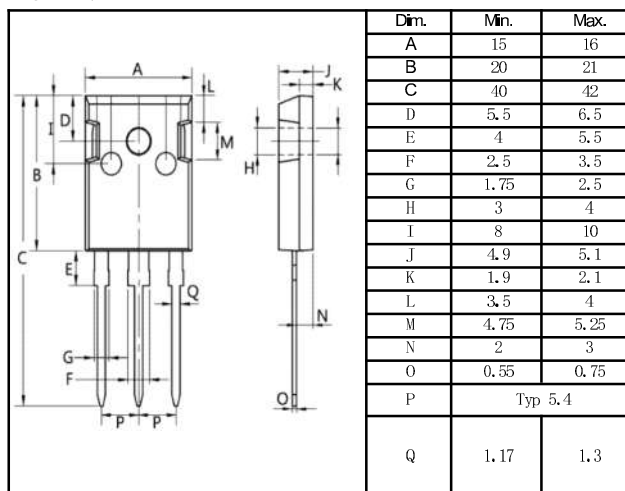


Package Outline Dimensions Millimeters

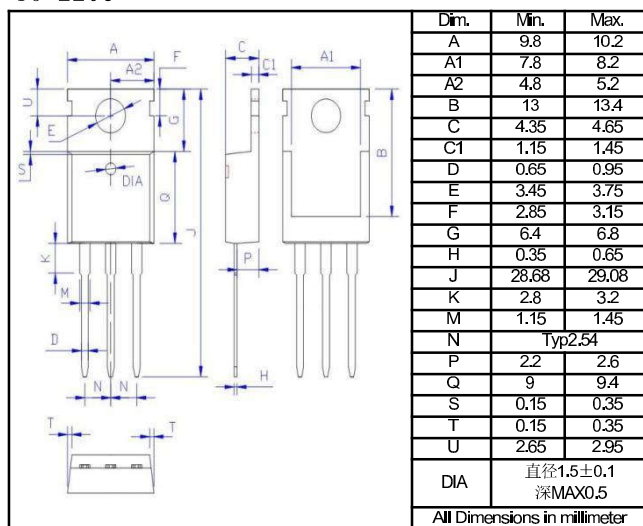
T0-220F



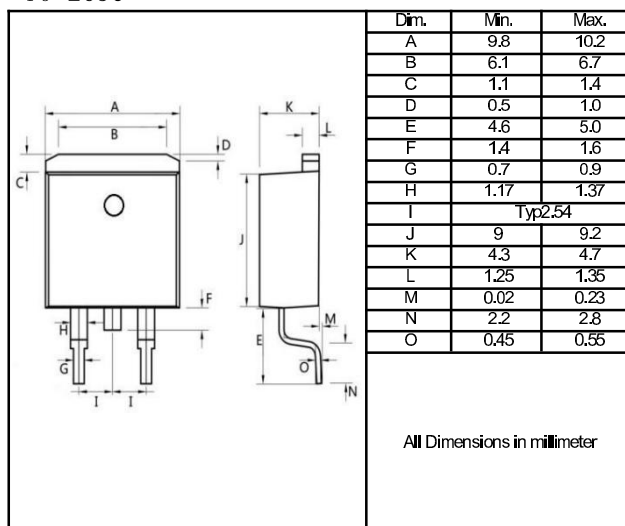
T0-247



T0-220C

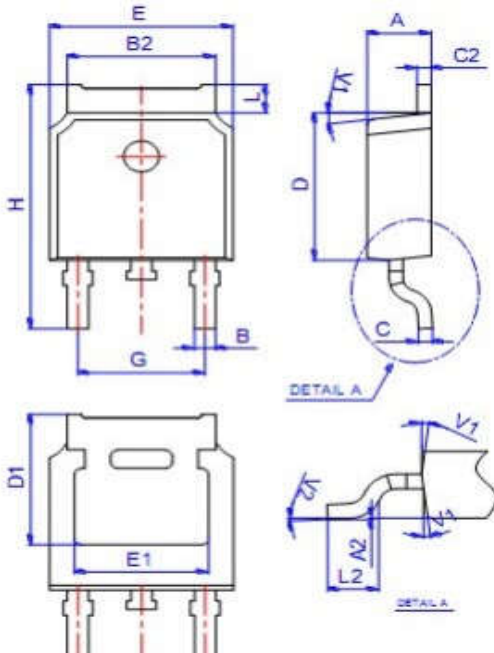


T0-263C



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				