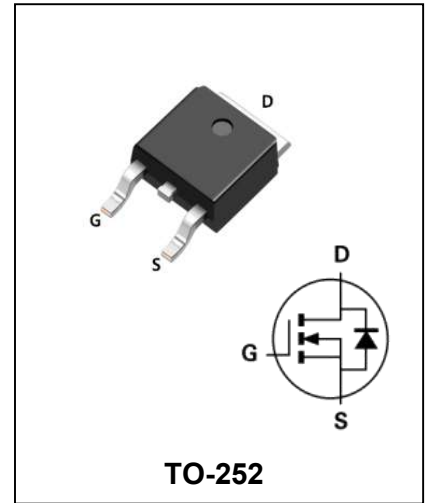


**30V N-Channel Enhancement Mode MOSFET**

**MAIN CHARACTERISTICS**

<b>I<sub>D</sub></b>	100A
<b>V<sub>DSS</sub></b>	30V
<b>R<sub>DS(on)-typ(@V<sub>GS</sub>=10V)</sub></b>	<5.1mΩ (Type:3.4mΩ)



**FEATURES**

Adopt advanced trench technology to provide excellent RDS(ON), low gate charge and operation with gate voltages as low as 4.5V. This device is suitable for use as a Battery protection or in other Switching application.

**APPLICATIONS**

- Battery protection
- Load switch
- Uninterruptible 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
YFW100N03AD	TO-252	YFW 100N03AD XXXXX	2500PCS/Tape

**Maximum Ratings at Tc=25°C unless otherwise specified**

Characteristics	Symbol	Value	Unit
Drain-Source Voltage	$V_{DS}$	30	V
Gate-Source Voltage	$V_{GS}$	$\pm 20$	V
Continue Drain Current	$I_D$	100	A
Pulsed Drain Current (Note1)	$I_{DM}$	300	A
Power Dissipation	$P_D$	85	W
Single Pulse Avalanche Energy (Note1)	$E_{AS}$	52	mJ
Operating Temperature Range	$T_J$	150	°C
Storage Temperature Range	$T_{STG}$	-55 to +175	°C
Thermal Resistance, Junction to Case	$R_{\theta JC}$	2.1	°C/W
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	62	°C/W

Note1:Pulse test: 300  $\mu$ s pulse width, 2 % duty cycle

**Electrical Characteristics at Tc=25°C unless otherwise specified**

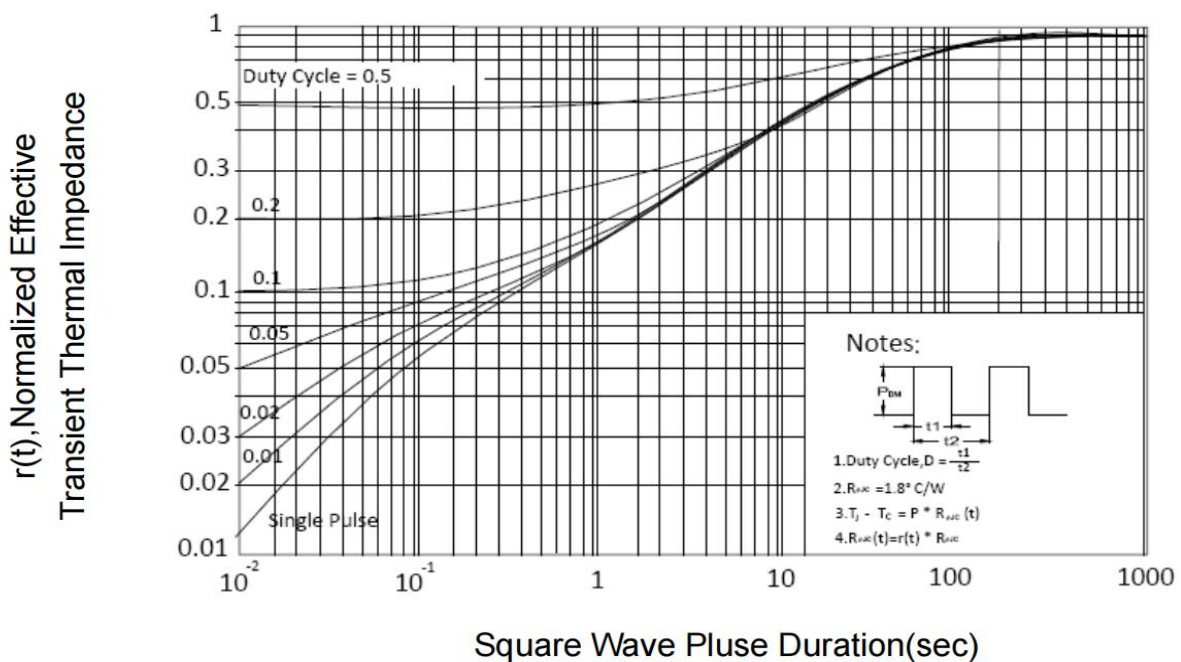
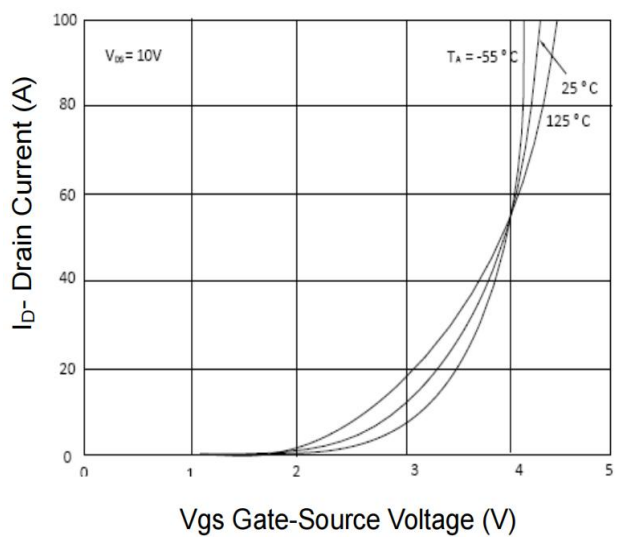
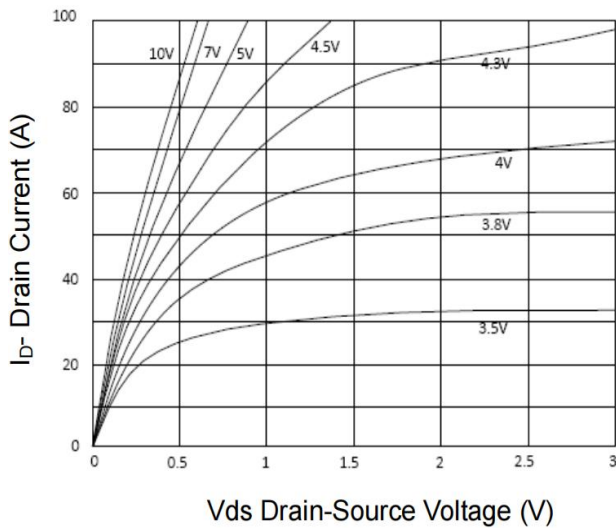
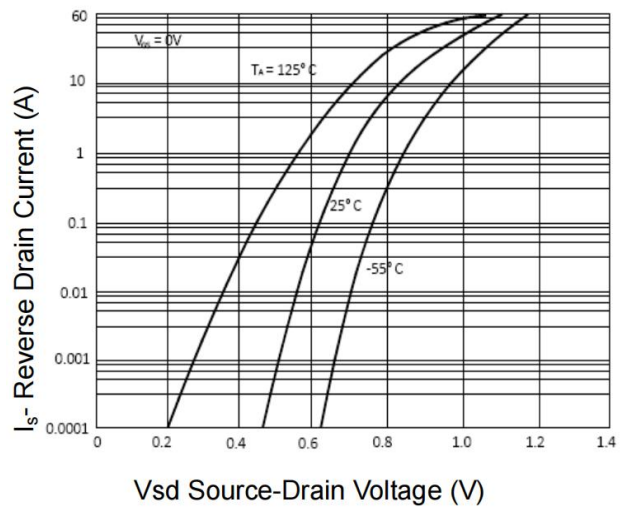
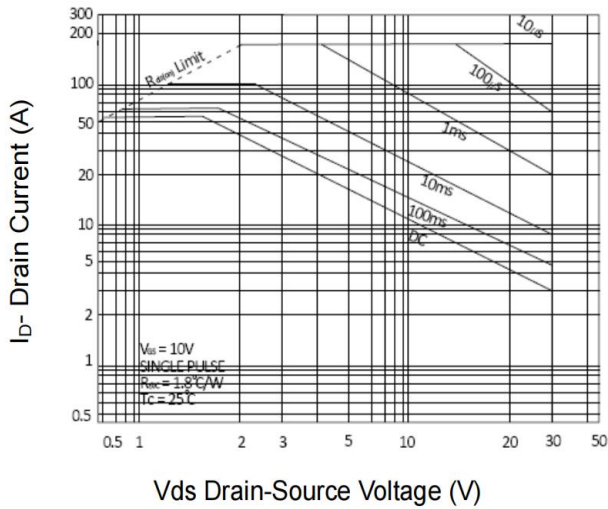
Characteristics	Test Condition	Symbol	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{GS} = 0 V, I_D = 250 \mu A$	$BV_{DSS}$	30	-	-	V
Drain-Source Leakage Current	$V_{DS} = 30 V, V_{GS} = 0 V$	$I_{DSS}$	-	-	1	$\mu A$
Gate Leakage Current	$V_{GS} = \pm 20 V, V_{DS} = 0 V$	$I_{GSS}$	-	-	$\pm 100$	nA
Gate-Source Threshold Voltage	$V_{DS} = V_{GS}, I_D = 250 \mu A$	$V_{GS(th)}$	1	-	2.5	V
Drain-Source On-State Resistance	$V_{GS}=10V, I_D=30A$	$R_{DS(on)}$	-	3.4	5.1	m $\Omega$
Forward Transconductance	$V_{DS} = 5 V, I_D = 10 A$	$g_{fs}$	20	-	-	S
Input Capacitance	$V_{DS}=15V, V_{GS}=0V, f=1MHz$	$C_{iss}$	-	2200	-	pF
Output Capacitance		$C_{oss}$	-	311	-	pF
Reverse Transfer Capacitance		$C_{rss}$	-	210	-	pF
Turn-on Delay Time(Note2)	$V_{DD}=15V, V_{GS}=10V, RG=3\Omega, I_D=30A$	$t_{d(ON)}$	-	20	-	ns
Rise Time(Note2)		$t_r$	-	15	-	ns
Turn-Off Delay Time(Note2)		$t_{d(OFF)}$	-	60	-	ns
Fall Time(Note2)		$t_f$	-	10	-	ns
Total Gate Charge(Note2)	$V_{DS}=15V, V_{GS}=10V, I_D=30A$	$Q_G$	-	51	-	nC
Gate to Source Charge(Note2)		$Q_{GS}$	-	14	-	nC
Gate to Drain Charge(Note2)		$Q_{GD}$	-	11	-	nC

**Source-Drain Diode Characteristics at Ta=25°C unless otherwise specified**

Characteristics	Test Condition	Symbol	Min.	Typ.	Max.	Unit
Maximun Body-Diode Continuous Current		$I_S$	-	-	100	A
Maximun Body-Diode Pulsed Current(Note2)		$I_{SM}$	-	-	300	A
Drain-Source Diode Forward Voltage	$V_{GS}=0V, I_S=1A, T_J=25^\circ C$	$V_{SD}$	-	-	1.2	V

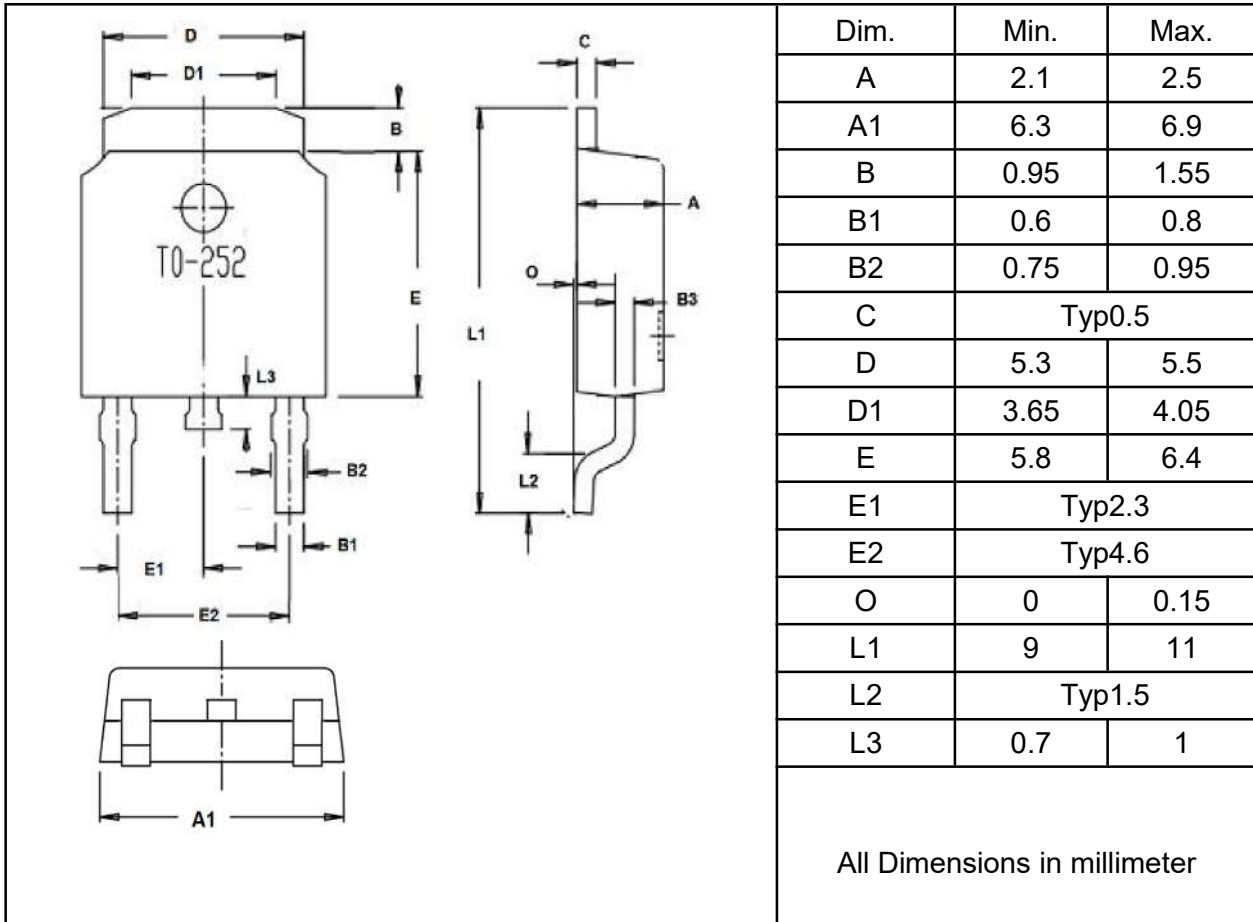
Note2:Pulse test: 300  $\mu$ s pulse width, 2 % duty cycle

**RATINGS AND CHARACTERISTIC CURVES**



Package Outline Dimensions millimeters

TO-252



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