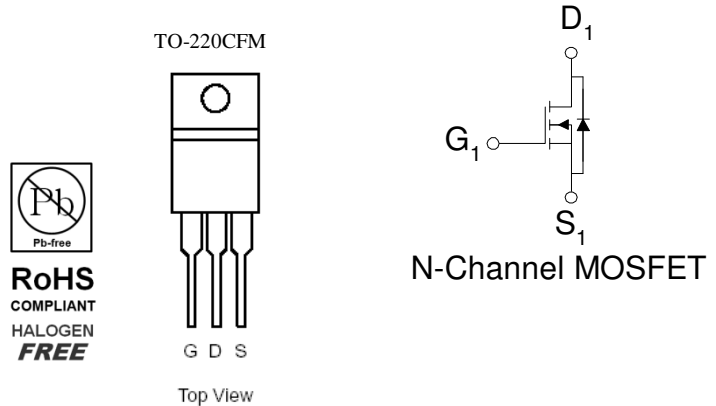


N-Channel 100-V (D-S) MOSFET

These miniature surface mount MOSFETs utilize a high cell density trench process to provide low $r_{DS(on)}$ and to ensure minimal power loss and heat dissipation. Typical applications are DC-DC converters and power management in portable and battery-powered products such as computers, printers.

- Low $r_{DS(on)}$ provides higher efficiency and extends battery life
- Low thermal impedance copper leadframe TO-220CFM saves board space
- Fast switching speed
- High performance trench technology

PRODUCT SUMMARY		
V_{DS} (V)	$r_{DS(on)}$ m(Ω)	I_D (A)
100	16 @ $V_{GS} = 10V$	87 ^a
	19 @ $V_{GS} = 5.5V$	



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ C$ UNLESS OTHERWISE NOTED)			
Parameter	Symbol	Limit	Units
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	
Continuous Drain Current ^a	$T_C=25^\circ C$ I_D	87	A
Pulsed Drain Current ^b	I_{DM}	240	
Continuous Source Current (Diode Conduction) ^a	I_S	90	A
Power Dissipation ^a	$T_C=25^\circ C$ P_D	300	W
Operating Junction and Storage Temperature Range	T_J, T_{stg}	-55 to 175	$^\circ C$

THERMAL RESISTANCE RATINGS			
Parameter	Symbol	Maximum	Units
Maximum Junction-to-Ambient ^a	$R_{\theta JA}$	62.5	$^\circ C/W$
Maximum Junction-to-Case	$R_{\theta JC}$	3.2	$^\circ C/W$

Notes

- a. Package Limited
- b. Pulse width limited by maximum junction temperature

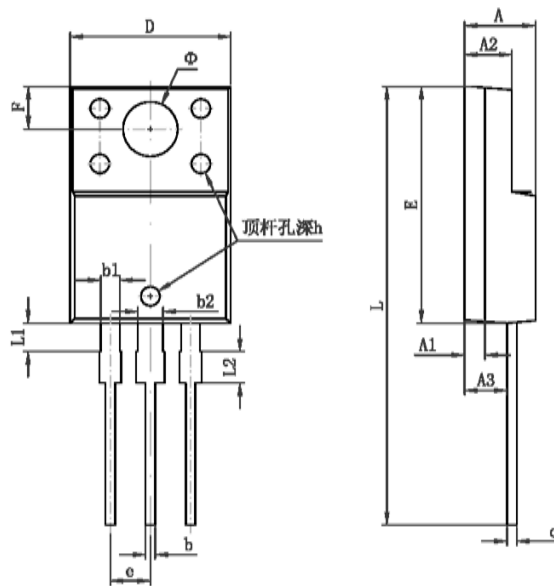
SPECIFICATIONS (T _A = 25°C UNLESS OTHERWISE NOTED)						
Parameter	Symbol	Test Conditions	Limits			Unit
			Min	Typ	Max	
Static						
Gate-Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250 uA	1			V
Gate-Body Leakage	I _{GSS}	V _{DS} = 0 V, V _{GS} = 20 V			±100	nA
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 80 V, V _{GS} = 0 V			1	uA
		V _{DS} = 80 V, V _{GS} = 0 V, T _J = 55°C			25	
On-State Drain Current ^A	I _{D(on)}	V _{DS} = 5 V, V _{GS} = 10 V	120			A
Drain-Source On-Resistance ^A	r _{DS(on)}	V _{GS} = 10 V, I _D = 2 A			16	mΩ
		V _{GS} = 5.5 V, I _D = 2 A			19	
Forward Transconductance ^A	g _{fs}	V _{DS} = 15 V, I _D = 2 A		30		S
Diode Forward Voltage	V _{SD}	I _S = 2 A, V _{GS} = 0 V		1.1		V
Dynamic^b						
Total Gate Charge	Q _g	V _{DS} = 15 V, V _{GS} = 5.5 V, I _D = 2 A		60		nC
Gate-Source Charge	Q _{gs}			19		
Gate-Drain Charge	Q _{gd}			39		
Turn-On Delay Time	t _{d(on)}	V _{DD} = 25 V, R _L = 25 Ω, I _D = 2 A, V _{GEN} = 10 V		25		nS
Rise Time	t _r			49		
Turn-Off Delay Time	t _{d(off)}			111		
Fall-Time	t _f			44		

Notes

- Pulse test: PW ≤ 300us duty cycle ≤ 2%.
- Guaranteed by design, not subject to production testing.

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Package Information



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min	Max	Min	Max
A	4.300	4.700	0.169	0.185
A1	1.300 REF		0.051 REF	
A2	2.800	3.200	0.110	0.126
A3	2.500	2.900	0.098	0.114
b	0.500	0.750	0.020	0.030
b1	1.100	1.350	0.043	0.053
b2	1.500	1.750	0.059	0.069
c	0.500	0.750	0.020	0.030
D	9.960	10.360	0.392	0.408
E	14.800	15.200	0.583	0.598
e	2.540 TYP		0.100 TYP	
F	2.700 REF		0.106 REF	
ϕ	3.500 REF		0.138 REF	
h	0.000	0.300	0.000	0.012
L	28.000	28.400	1.102	1.118
L1	1.700	1.900	0.067	0.075
L2	1.900	2.100	0.075	0.083