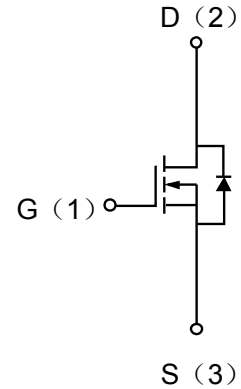


## Description

The enhancement mode MOS is extremely high density cell and low on-resistance.

MOSFET Product Summary		
$V_{DS}(V)$	$R_{DS(on)}(\Omega)$	$I_D(A)$
600	1.9@ $V_{GS}=10V$	4



## Electrical characteristics per line@25°C ( unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
<b>OFF CHARACTERISTICS</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$I_D=250\mu A, V_{GS}=0V$	600		-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=600V, V_{GS}=0V$	-	-	1	$\mu A$
Gate-Body Leakage Current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	2		4	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=0.65A$	-	1.9	2.2	$\Omega$
Forward Transconductance	$g_{FS}$	$V_{DS}=40V, I_D=2A$		7.4		S
Diode Forward Voltage	$V_{SD}$	$I_S=1A, V_{GS}=0V$		0.77	1	V
Maximum Body-Diode Continuous Current	$I_S$				4	A
Maximum Body-Diode Pulse Current	$I_{SM}$				16	A
<b>DYNAMIC PARAMETERS</b>						
Input Capacitance	$C_{ISS}$	$V_{GS}=0V, V_{DS}=25V,$ $f=1MHz$	400	511	615	pF
Output Capacitance	$C_{OSS}$		40	51	65	pF
Reverse Transfer Capacitance	$C_{RSS}$		3.5	4.4	5.3	pF
<b>SWITCHING PARAMETERS</b>						
Turn-On Delay Time	$t_{d(on)}$	$V_{DS}=300V, V_{GS}=10V,$ $R_G=25\Omega,$ $I_D=4A$	-	20.2		ns
Turn-Off Delay Time	$t_{d(off)}$		-	36		ns
Turn-On Rise Time	$t_r$			28.7		ns
Turn-Off Fall Time	$t_f$			27		ns

Absolute maximum rating @25°C

Rating		Symbol	Value	Units
Drain-Source Voltage		$V_{DS}$	600	V
Gate-Source Voltage		$V_{GS}$	$\pm 30$	V
Drain Current	Continuous	$I_D$	4.0	A
	Pulsed	$I_D$	16.0	A
Total Power Dissipation	$T_A=25^\circ\text{C}$	$P_D$	104	W
	Derate above 25°C	$P_D$	0.83	W / °C

Typical Characteristics

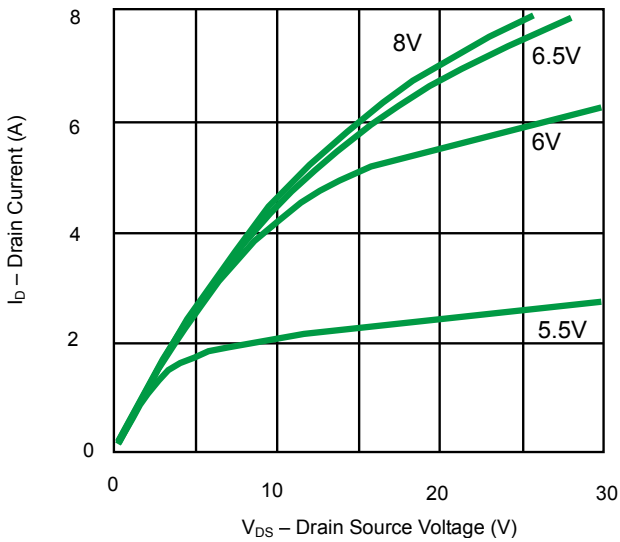


Fig 1. On-Region Characteristics

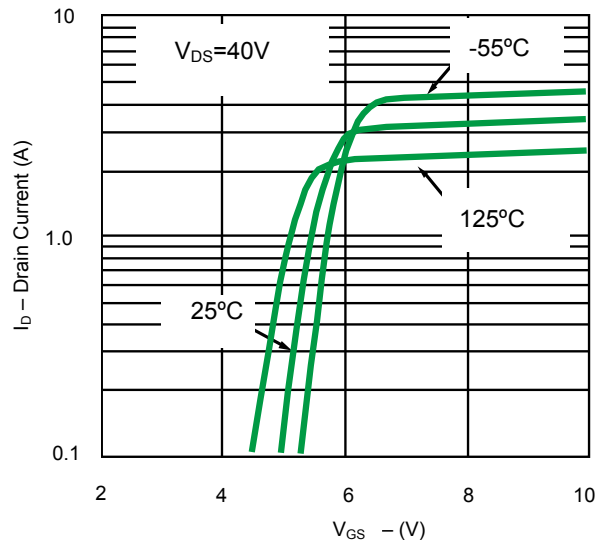


Fig 2. Transfer Characteristics

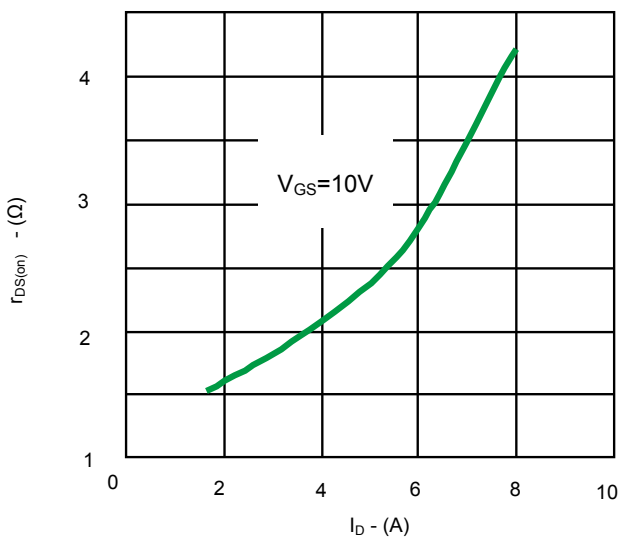


Fig 3. On-Resistance vs. Drain Current and Gate Voltage

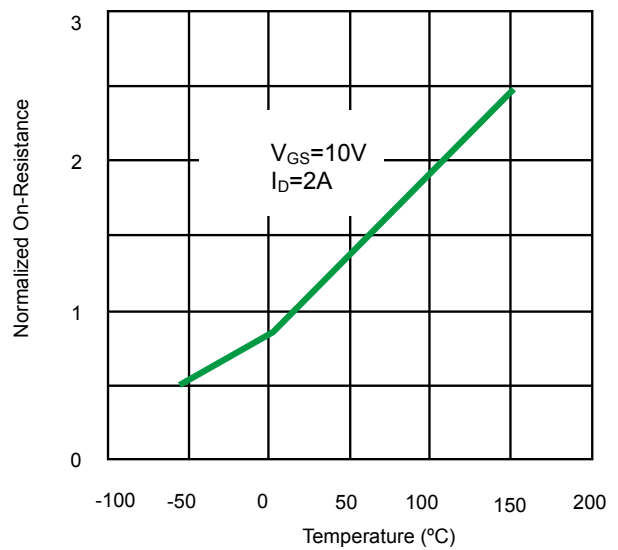
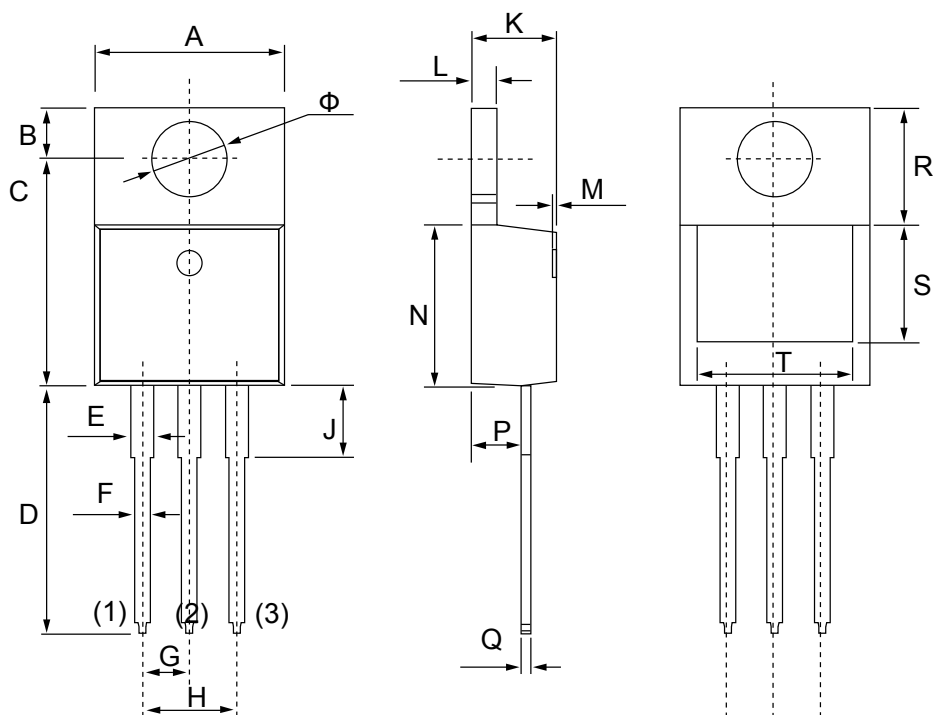


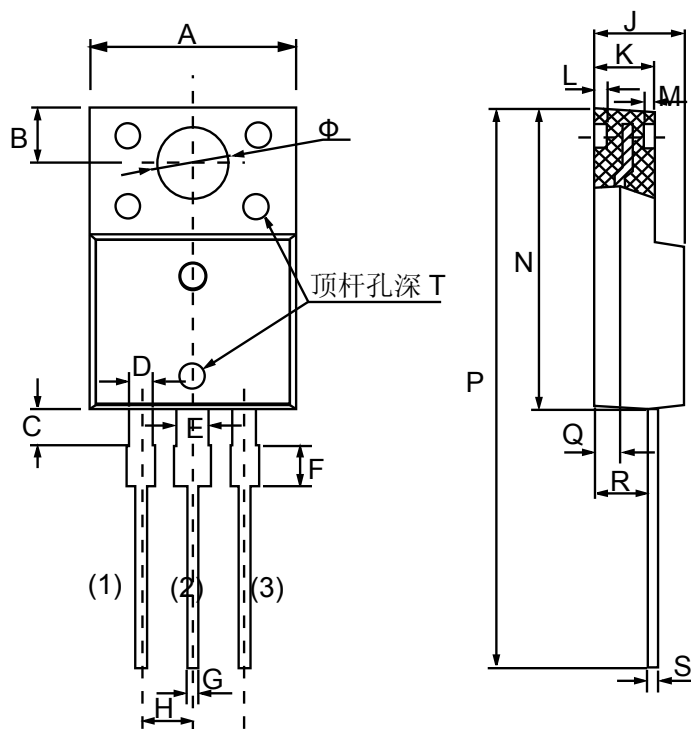
Fig 4. On-Resistance vs. Junction Temperature

Product dimension(PNMTO600V4)(TO-220)




Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	10.010	10.350	0.394	0.407
B	2.590	2.890	0.102	0.114
C	12.060	12.460	0.475	0.491
D	13.400	13.800	0.528	0.543
E	1.170	1.370	0.046	0.054
F	0.710	0.910	0.028	0.036
G	2.540 TYP.		0.100 TYP.	
H	4.980	5.180	0.196	0.204
J	3.560	3.960	0.140	0.156
K	4.470	4.670	0.176	0.184
L	1.200	1.400	0.047	0.055
M	0.000	0.300	0.000	0.012
N	8.500	8.900	0.335	0.350
P	2.520	2.820	0.099	0.111
Q	0.380	0.520	0.014	0.020
R	6.600 REF.		0.260 REF.	
S	6.060 REF.		0.239 REF.	
T	8.440 REF.		0.332 REF.	
Φ	3.735	3.935	0.147	0.155

Product dimension (PNMTOF600V4)(TO-220F)



Dim	Millimeters		Inches	
	MIN	MAX	MIN	MAX
A	9.960	10.360	0.392	0.408
B	2.700 REF		0.106 REF	
C	1.700	1.900	0.067	0.075
D	1.100	1.350	0.043	0.053
E	1.500	1.750	0.059	0.069
F	1.900	2.100	0.075	0.083
G	0.500	0.750	0.020	0.030
H	2.540 TYP		0.100 TYP	
J	4.300	4.700	0.169	0.185
K	2.800	3.200	0.110	0.126
L	0.800 REF		0.031 REF	
M	0.500 REF		0.020 REF	
N	14.800	15.200	0.583	0.598
P	28.000	28.400	1.102	1.118
Q	1.300 REF		0.051 REF	
R	2.500	2.900	0.098	0.114
S	0.500	0.750	0.020	0.030
T	0.000	0.300	0.000	0.012
$\Phi$	3.500 REF		0.138 REF	


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