

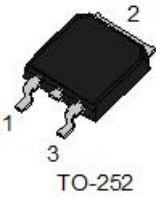
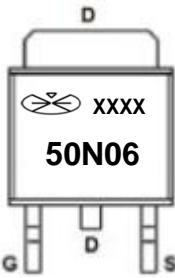
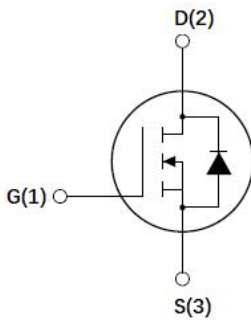


**50N06**

**N-Channel Mode Power MOSFET**

<p><b>Features</b></p> <ul style="list-style-type: none"> <li>• <math>R_{DS(ON)} &lt; 16m\Omega @ V_{GS} = 10V</math></li> <li>• <math>R_{DS(ON)} &lt; 19m\Omega @ V_{GS} = 4.5V</math></li> <li>• <math>V_{DS} = 60V, I_D = 50A</math></li> </ul>	<p><b>Application</b></p> <ul style="list-style-type: none"> <li>• Power switching application</li> </ul>
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**Package**

**Package Marking and Ordering Information**

Product ID	PACK	Qty (pcs)
50N06	TO-252	2500

**MAXIMUM RATINGS(Ta=25°C unless otherwise noted)**

Symbol	Parameter	Value	Unit
$V_{DS}$	Drain-Source Voltage	60	V
$V_{GS}$	Gate-Source Voltage	$\pm 20$	V
$I_D$	Continuous Drain Current	50	A
$I_{DM}$	Pulsed Drain Current	200	A
$P_D$	Power Dissipation	75	W
$T_j$	Junction Temperature	-30 to 150	°C
$T_{stg}$	Storage Temperature	-30 to 150	
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	100	°C/W
$R_{\theta JC}$	Thermal Resistance From Junction To Case	1.67	°C/W



**50N06****N-Channel Mode Power MOSFET****MOSFET ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

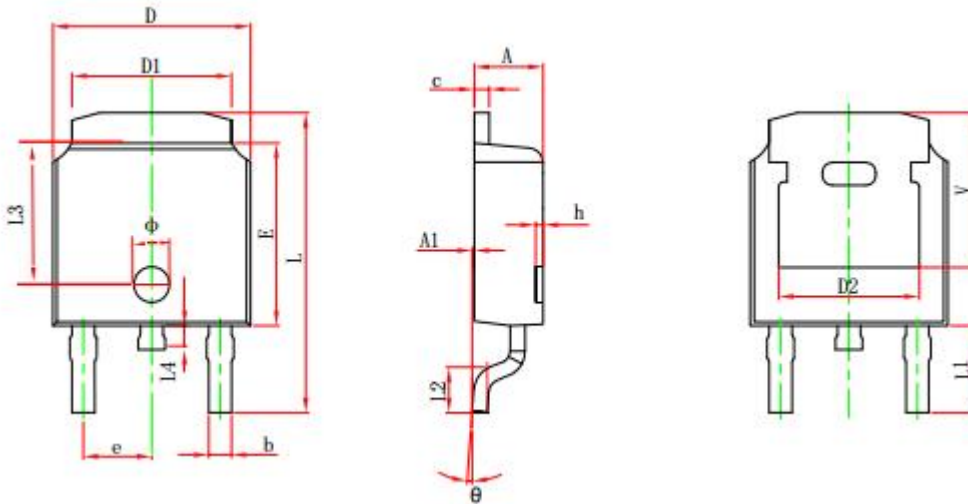
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
<b>Off characteristics</b>						
Drain-Source breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=250\mu A$	60			V
Zero gate voltage drain current	$I_{DSS}$	$V_{DS}=48V, V_{GS}=0V$	$T_J=25^\circ C$		1	$\mu A$
			$T_J=125^\circ C$		100	
Gate-body leakage current	$I_{GSS}$	$V_{DS}=0V, V_{GS}=\pm 20V$			$\pm 100$	nA
<b>On characteristics</b>						
Gate-threshold voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1.0	1.6	2.5	V
Non-triggering gate voltage	$R_{DS(on)}$	$V_{GS}=4.5V, I_D=10A$		17	19	m $\Omega$
		$V_{GS}=10V, I_D=20A$		13	16	m $\Omega$
<b>Drain-Source Diode Characteristics</b>						
Drain-Source diode forward Voltage	$V_{SD}$	$V_{GS}=0V, I_S=1.0A$			1.2	V
Continuous drain-source diode forward current	$I_S$				50	A



50N06

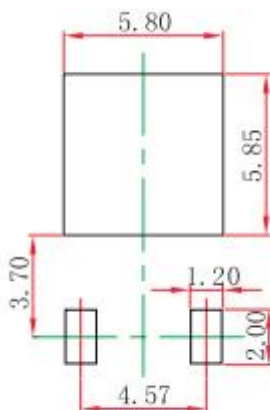
N-Channel Mode Power MOSFET

### TO-252-2L Package Outline Dimensions



Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	4.460 REF.		0.1756 REF.	
L4	0.600	1.000	0.024	0.039
Phi	1.100	1.300	0.043	0.051
theta	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

### TO-252-2L Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

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