



SLS10P04 P-channel MOSFET

主要特性/Features

- ◇ Surface Mount T0-252-2L Package ;
- ◇ Trench FET Power MOSFET;
- ◇ High Power and current handing capability;
- ◇ RoHS compliant / Green EMC;

P-MOSFET

$V_{DS} = -40V$ $I_D = -10A$

$R_{DS(ON)} < 65m\Omega$ @ $V_{GS} = -10V$

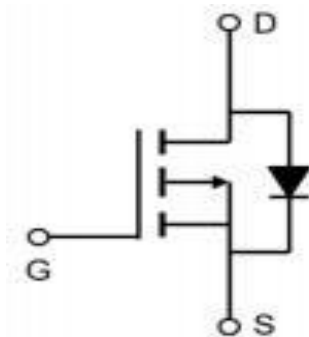
应用/Application

电池保护 Battery protection

负载开关 Load switch

不间断电源 Uninterruptible power supply

印字/MARKING 等效电路/Equivalent Circuit





极限参数/Absolute Maximum Ratings(TA=25°C unless otherwise noted)

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	-40	V
V _{GS}	Gate-Source Voltage	±20	V
I _D @T _C =25°C	Continuous Drain Current, V _{GS} @ -10V ¹	-10	A
I _D @T _C =100°C	Continuous Drain Current, V _{GS} @ -10V ¹	-7	A
I _D @T _A =25°C	Continuous Drain Current, V _{GS} @ -10V ¹	-4.5	A
I _D @T _A =70°C	Continuous Drain Current, V _{GS} @ -10V ¹	-3.6	A
I _{DM}	Pulsed Drain Current ²	-32	A
EAS	Single Pulse Avalanche Energy ³	21	mJ
I _{AS}	Avalanche Current	-20.5	A
P _D @T _C =25°C	Total Power Dissipation ⁴	25	W
P _D @T _A =25°C	Total Power Dissipation ⁴	2	W
T _{STG}	Storage Temperature Range	-55 to 150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C
R _{θJA}	Thermal Resistance Junction-Ambient ¹	62	°C/W
R _{θJC}	Thermal Resistance Junction-Case ¹	5	°C/W



电性能参数/Electrical Characteristics(TA=25°C unless otherwise noted)

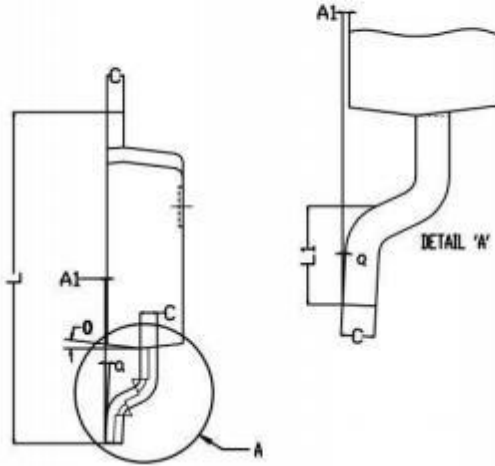
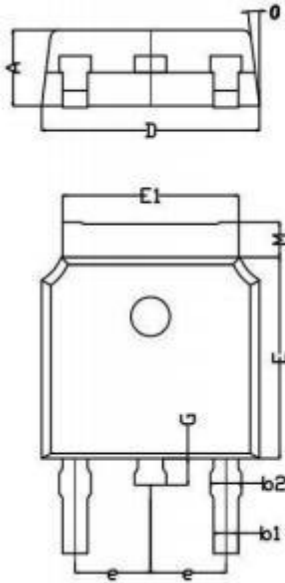
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BVDSS	Drain-Source Breakdown Voltage	$V_{GS}=0V, I_D=-250\mu A$	-40	-47	---	V
$\Delta BVDSS/\Delta T$	BV _{DSS} Temperature Coefficient	Reference to 25°C, $I_D=-1mA$	---	0.015	---	V/°C
RDS(ON)	Static Drain-Source On-Resistance ²	$V_{GS}=-10V, I_D=-8A$	---	60	65	mΩ
		$V_{GS}=-4.5V, I_D=-4A$	---	85	100	
VGS(th)	Gate Threshold Voltage	$V_{GS}=V_{DS}, I_D=-250\mu A$	-1.0	-1.6	-2.5	V
$\Delta VGS(th)$	V _{GS(th)} Temperature Coefficient		---	3.52	---	V/°C
IDSS	Drain-Source Leakage Current	$V_{DS}=-32V, V_{GS}=0V, T_J=25^\circ C$	---	---	1	μA
		$V_{DS}=-32V, V_{GS}=0V, T_J=55^\circ C$	---	---	5	
IGSS	Gate-Source Leakage Current	$V_{GS}=\pm 20V, V_{DS}=0V$	---	---	±100	nA
gfs	Forward Transconductance	$V_{DS}=-10V, I_D=-10A$	---	6	---	S
Qg	Total Gate Charge (-4.5V)	$V_{DS}=-20V, V_{GS}=-4.5V, I_D=-8A$	---	5.8	---	nC
Qgs	Gate-Source Charge		---	1.2	---	
Qgd	Gate-Drain Charge		---	2.1	---	
Td(on)	Turn-On Delay Time	$V_{DD}=-12V, V_{GS}=-10V, R_G=3.3\Omega, I_D=-1A$	---	13.2	---	ns
Tr	Rise Time		---	8	---	
Td(off)	Turn-Off Delay Time		---	40	---	
Tf	Fall Time		---	3.5	---	
Ciss	Input Capacitance	$V_{DS}=-15V, V_{GS}=0V, f=1MHz$	---	620	---	pF
Coss	Output Capacitance		---	69	---	
Crss	Reverse Transfer Capacitance		---	52	---	
IS	Continuous Source Current ^{1,5}	$V_G=V_D=0V, \text{Force Current}$	---	---	-16	A
ISM	Pulsed Source Current ^{2,5}		---	---	-32	A
VSD	Diode Forward Voltage ²	$V_{GS}=0V, I_S=-1A, T_J=25^\circ C$	---	---	-1.2	V

Note :

- 1、The data tested by surface mounted on a 1 inch 2 FR-4 board with 2OZ copper.
- 2、The data tested by pulsed , pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$
- 3、The EAS data shows Max. rating . The test condition is $V_{DD}=-25V, V_{GS}=-10V, L=0.1mH, I_{AS}=-20.5A$
- 4、The power dissipation is limited by 150°C junction temperature
- 5、The data is theoretically the same as I D and I DM , in real applications , should be limited by total power dissipation

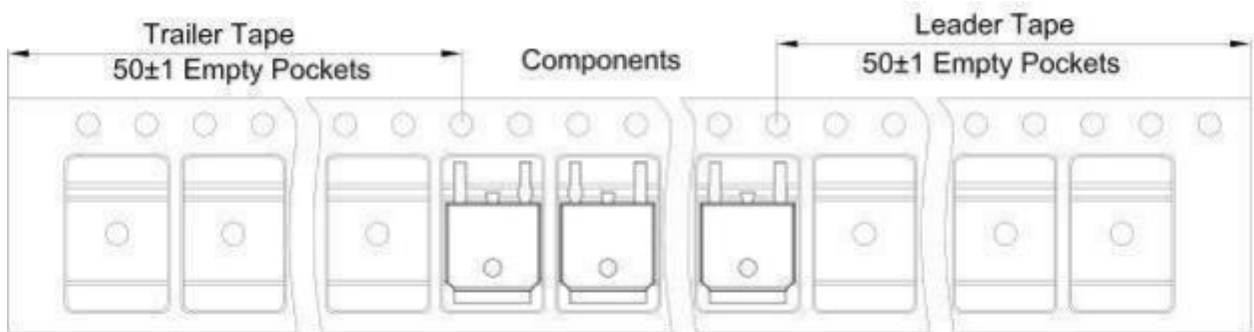


成品外观尺寸/T0-252-2L Package Information



Symbol	Dim in mm		
	Min	Nom	Max
A	2.25	2.30	2.35
L1	2.90	3.00	3.10
b1	0.71	0.76	0.81
b2	1.01	0.96	0.91
C	0.46	0.51	0.56
D	6.55	6.60	6.65
e	2.20(BSC)		
E	6.05	6.10	6.15
E1	5.23	5.33	5.43
L	9.84	10.04	10.24
A1	0.00	0.05	0.10
M	1.01	1.06	1.11
G	0.70	0.80	0.90
o	0°	5°	10°
a	0°	3°	6°

出货规范/Shipping Specifications



Reel	Reel Size	Box	Box Size(mm)	Carton	Carton size(mm)
2500 Pcs	13 inch	2500 Pcs	340×336×29	25 Kpcs	353×345×365