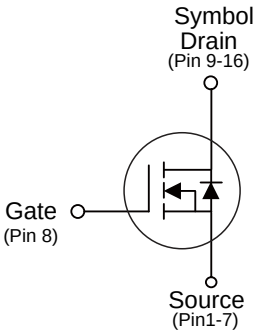
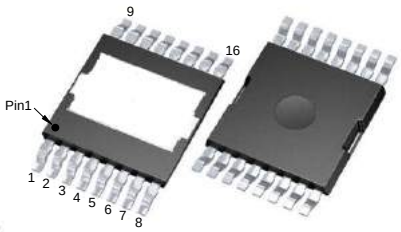
■ PRODUCT CHARACTERISTICS

V_{DSS}	100V
$R_{DS(ON)}$Typ(@V_{GS}=10V)	2.3mΩ
Qg@typ	158nC
I_D	250A



■ APPLICATIONS

* Battery Management
* Motor Control and Drive
* Switching Applications



■ FEATURE

* Low Gate Charge
* Low Reverse Transfer Capacitance
* 100% Avalanche Tested

■ ORDER INFORMATION

Order Codes		Package	Packing
Halogen-Free	Halogen		
MOT1126T4	N/A	TOLT	1200 pieces/Reel

■ ABSOLUTE MAXIMUM RATINGS(T_A=25°C,unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Drain-Source Voltage	V_{DSS}	100	V
Gate-Source Voltage	V_{GSS}	±20	V
Drain Current Continuous(@V_{GS}=10V,T_C=25°C)	I_D	250	A
Drain Current Continuous(@V_{GS}=10V,T_C=100°C)	I_D	160	A
Drain Current Pulsed	I_{DM}	1000	A
Avalanche Energy *	E_{AS}	2516	mJ
Power Dissipation	P_D	360	W
Junction Temperature	T_J	+150	°C
Storage Temperature	T_{STG}	-55~ +150	°C

■ THERMAL CHARACTERISTICS

Parameter	Symbol	Typ	Unit
Junction to Case	R_{thJC}	0.34	°C/W

Note: * EAS condition: T_J=25°C,V_{DD}=40V,V_G=10V,L=1mH,R_g=25Ω

■ ELECTRICAL CHARACTERISTICS (T_C=25°C, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Off characteristics						
Drain to Source Breakdown Voltage	V_{DSS}	V_{GS}=0V,I_D=250μA	100	-	-	V
Drain to Source Leakage Current	I_{DSS}	V_{DS}=100V,V_{GS}=0V	-	-	1	μA
Gate to Source Forward Leakage	$I_{GSS(F)}$	V_{DS}=0V, V_{GS}=+20V	-	-	100	nA
Gate to Source Reverse Leakage	$I_{GSS(R)}$	V_{DS}=0V, V_{GS}=-20V	-	-	-100	nA
On characteristics						
Drain to Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V,I_D=50A	-	2.3	2.6	mΩ
Gate Threshold Voltage	$V_{GS(TH)}$	V_{DS}=V_{GS},I_D=250μA	2	3.1	4	V
Dynamic characteristics						
Gate Resistance	R_g	V_{GS}=0V,V_{DS}=0V ,f=1.0MHz	-	0.7	-	Ω
Forward Transconductance	g_{fs}	V_{DS}=10V,I_D=5A	-	28	-	S
Input Capacitance	C_{iss}	V_{DS}=50V,V_{GS}=0V f=1.0MHz	-	7470	-	pF
Output Capacitance	C_{oss}		-	930	-	pF
Reverse Transfer Capacitance	C_{rss}		-	50	-	pF
Resistive Switching Characteristics						
Turn-on Delay Time	$t_{d(ON)}$	I_D=50A, V_{DS}=50V R_G=3.9Ω ,V_{GS}=10V	-	27	-	ns
Rise Time	t_r		-	75	-	ns
Turn-off Delay Time	$t_{d(OFF)}$		-	89	-	ns
Fall Time	t_f		-	29	-	ns
Total Gate Charge	Q_g	I_D=50A, V_{DS}=50V V_{GS}=10V	-	158	-	nC
Gate to Source Charge	Q_{gs}		-	52	-	nC
Gate to Drain("Miller") Charge	Q_{gd}		-	29	-	nC
Source-Drain Diode Characteristics						
Continuous Source Current(Body Diode)	I_S		-	-	250	A
Maximum Pulsed Current(Body Diode)	I_{SM}		-	-	1000	A
Diode Forward Voltage	V_{SD}	I_{SD}=1A, V_{GS}=0V	-	0.68	1.2	V
Reverse Recovery Time	t_{rr}	I_{SD} =50A, T_J=25°C dI/dt=100A/μs	-	75	-	ns
Reverse Recovery Charge	Q_{rr}		-	185	-	nC

■ TYPICAL CHARACTERISTICS

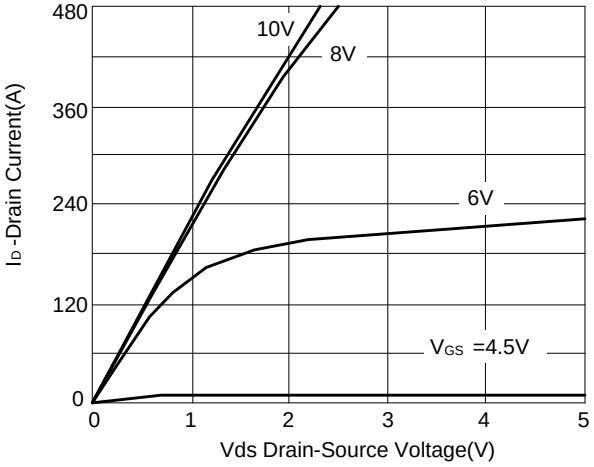


Figure 1:Output Characteristics

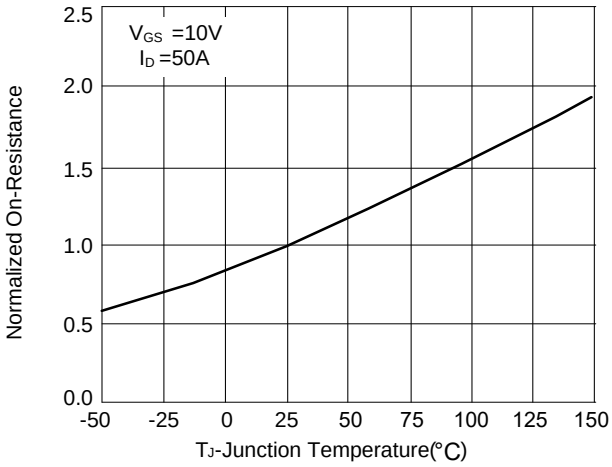


Figure 2:Rdson-Junction Temperature

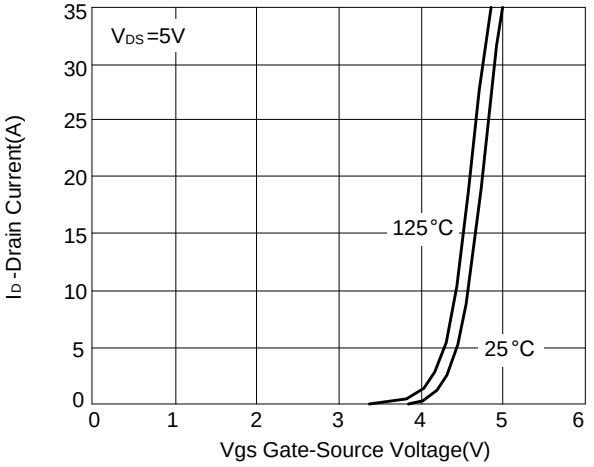


Figure 3:Transfer Characteristics

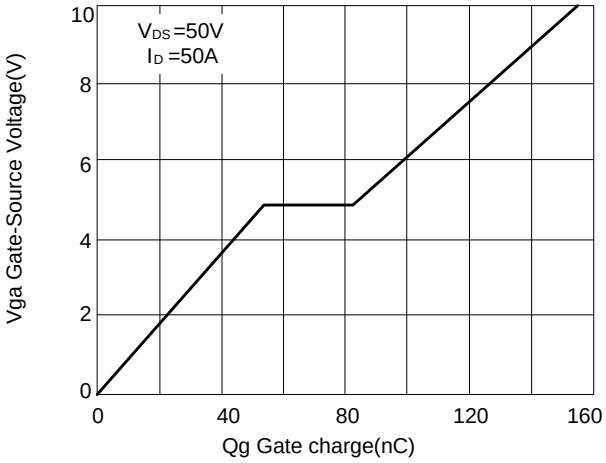


Figure 4:Gate Charge

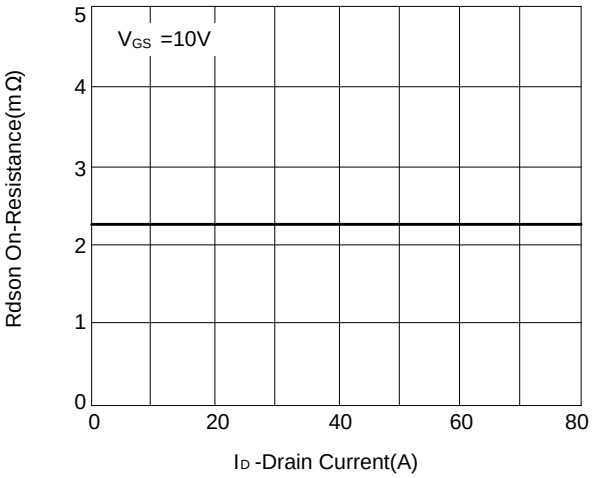


Figure 5:Rdson-Drain Current

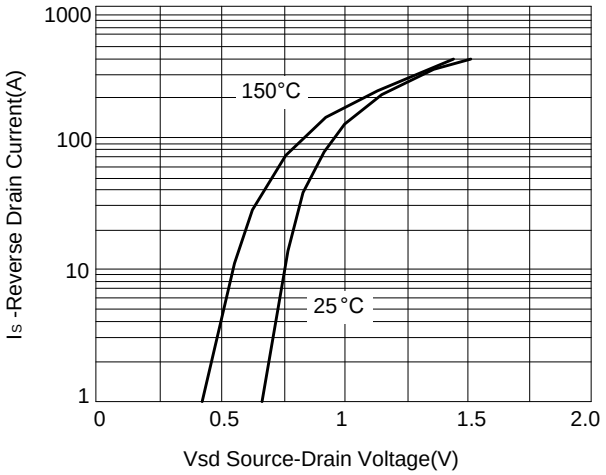


Figure 6:Source-Drain Diode Forward

■ TYPICAL CHARACTERISTICS(Cont.)

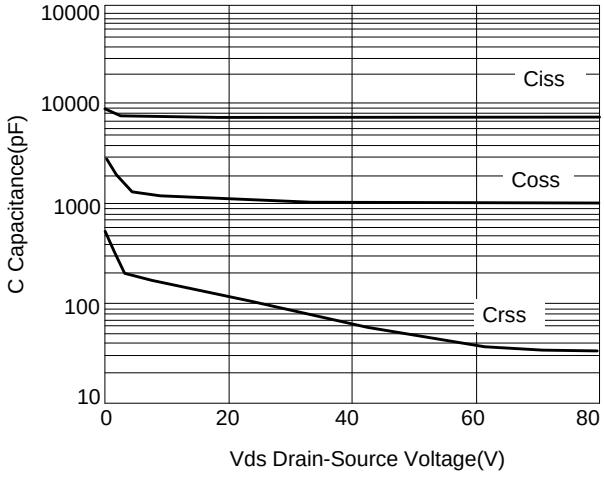


Figure 7:Capacitance vs vds

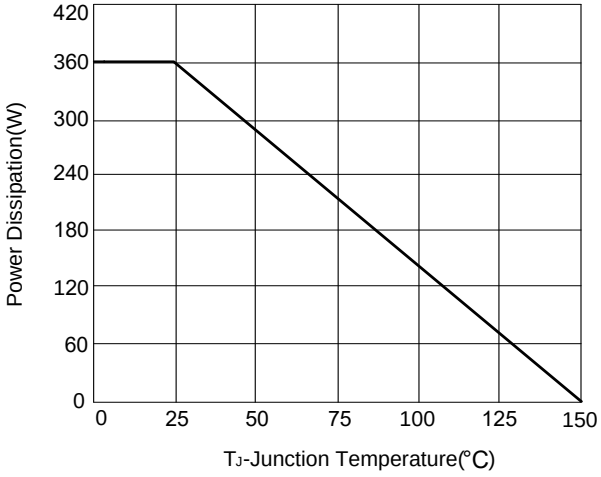


Figure 8:Power De-rating

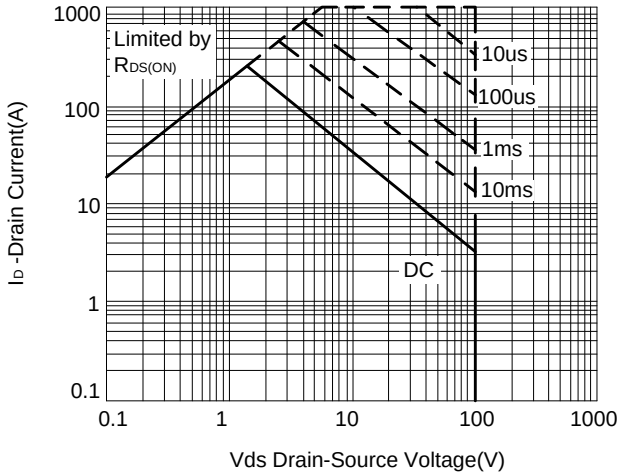


Figure 9:Safe Operation Area

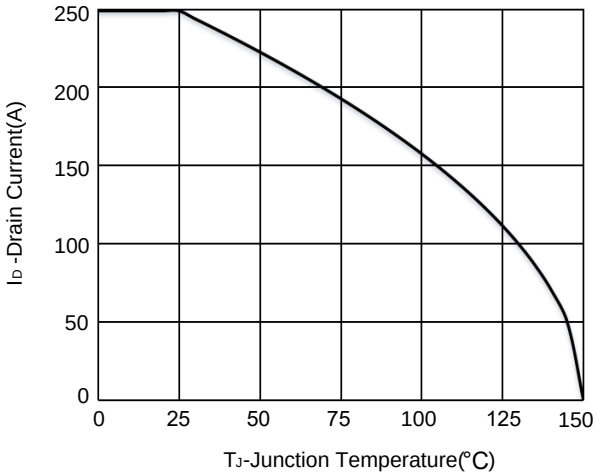
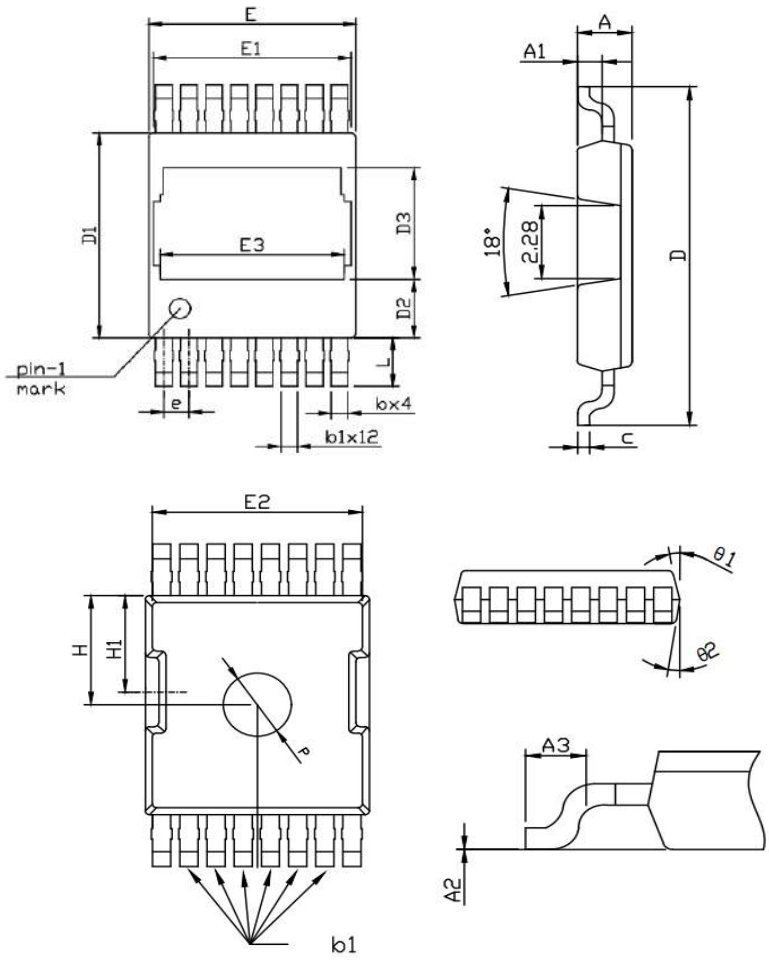


Figure 10:Current De-rating

■ TOLT PACKAGE OUTLINE DIMENSIONS



SYMBOL	mm		
	MIN	NOM	MAX
A	2.25	2.30	2.35
A1	1.00	1.04	1.08
A2	0.01	0.08	0.16
A3		1.50REF	
b	0.73	0.75	0.79
b1	0.68	0.70	0.74
c	0.45	0.50	0.55
D	14.80	15.00	15.20
D1	10.00	10.10	10.30
D2	2.20	2.44	2.64
D3		5.67REF	
E	9.70	9.90	10.10
E1		9.46REF	
E2		9.25REF	
E3		8.30REF	
e	1.18	1.20	1.12
H	5.00	5.20	5.40
H1	4.40	4.60	4.80
L	2.40	2.45	2.50
P	2.80	3.00	3.20
θ1	7°	–	9°
θ2	7°	–	9°

NOTICE：

1、The information in this document is believed to be accurate and reliable at the time of publication, but is subject to change without notice. Guangdong Renmao Electronics Co., Ltd. （"The Company"）reserves the right to modify its products and specifications at any time, and assumes no responsibility for any errors or omissions herein.

2、The Company makes no warranty, express or implied, regarding the fitness of its products for any particular purpose. Customers are responsible for verifying the suitability of the products for their applications and for the design and testing of their end products.

3、The values listed under "Absolute Maximum Ratings" are stress ratings only. Stresses beyond these limits may cause permanent damage to the device.

4、The Company's products are not designed or authorized for use in life support, medical, military, aerospace, or other critical applications where the failure of the product could result in personal injury or death. Any such use is at the customer's own risk.

5、These devices are sensitive to electrostatic discharge (ESD). Proper handling and protection procedures must be observed.

6、No license to any intellectual property right is granted by this document. All products are sold subject to the Company's terms and conditions of sale.