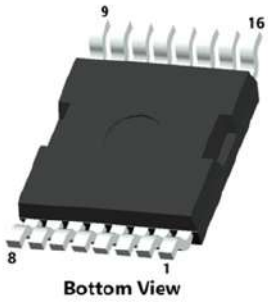
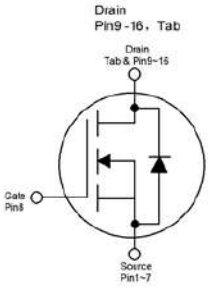
N-Channel Enhancement Mode Field Effect Transistor

Top View



Bottom View

TOLT



Product Summary

- V_{DS} 80V
- I_D 453A
- $R_{DS(ON)}$(at V_{GS}=10V) ＜1.13mΩ
- 100% EAS Tested
- 100% ▽V_{DS} Tested
- ESD Level(HBM) H3A

General Description

- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

- BLDC Motor driver
- Load Switch
- DC-DC convertor
- 48V Port

■ Limiting Values

Parameter	Conditions		Symbol	Min	Max	Unit
Drain-source Voltage			V_{DS}	-	80	V
Gate-source Voltage			V_{GS}	-20	20	
Continuous Drain Current (Note 1,2)	Steady-State	T_A=25℃,V_{GS}=10V	I_D	-	42.1	A
		T_A=100℃,V_{GS}=10V		-	29.8	
Continuous Drain Current (Note 1,3)	Steady-State	T_C=25℃,V_{GS}=10V,Chip limitation		-	453	
		T_C=100℃,V_{GS}=10V		-	320	
Pulsed Drain Current	T_C=25℃,t_p≤10μs		I_{DM}	-	1812	
Maximum Body-Diode Continuous Current	T_C=25℃		I_S		360	
Avalanche Energy (non-repetitive)	T_J=25℃,V_G=10V, R_G=25Ω, L=1mH, I_{AS}=56A		EAS	-	1568	mJ
Total Power Dissipation (Note 1,2)	Steady-State	T_A=25℃	P_D	-	4	W
		T_A=100℃		-	2	
Total Power Dissipation (Note 1,3)	Steady-State	T_C=25℃		-	468	
		T_C=100℃		-	234	
Junction and Storage Temperature Range			T_J ,T_{STG}	-55	175	℃

■Thermal Resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient (Note 2)	Steady-State	$R_{\theta JA}$	-	37	℃/W
Thermal Resistance Junction-to-Case	Steady-State	$R_{\theta JC}$	-	0.32	