N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 20V
- I_D 6.8A
- $R_{DS(ON)}$(at V_{GS}=4.5V) 18mohm
- $R_{DS(ON)}$(at V_{GS}=2.5V) 22mohm
- $R_{DS(ON)}$(at V_{GS}=1.8V) 39mohm

General Description

- Trench Power LV MOSFET technology
- High Power and current handing capability
- Part no. with suffix “Q” means AEC-Q101 qualified

Applications

- PWM applications
- Load switch

■ Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	20	V
Gate-source Voltage		V_{GS}	± 10	V
Drain Current	T_A=25	I_D	6.8	A
	T_A=70		5.4	
Pulsed Drain Current [A]		I_{DM}	27	A
Total Power Dissipation	T_A=25	P_D	1.25	W
	T_A=70		0.8	W
Thermal Resistance Junction-to-Ambient [B]		$R_{\theta JA}$	100	/ W
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

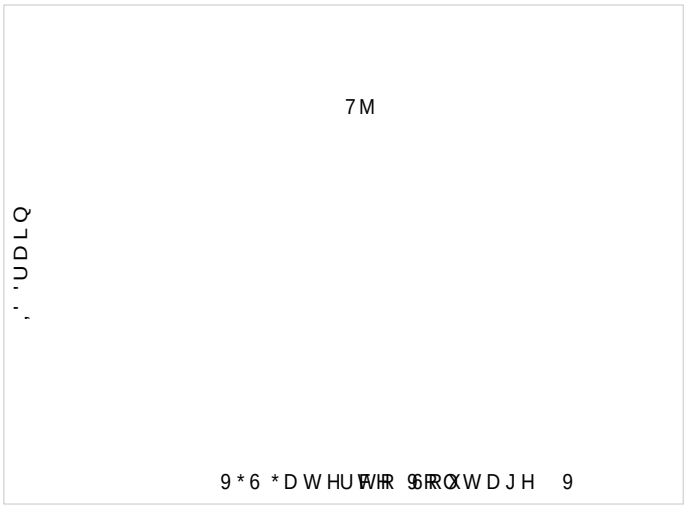
■ Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJL2312AQ	F2	S12	3000	30000	120000	7“ reel

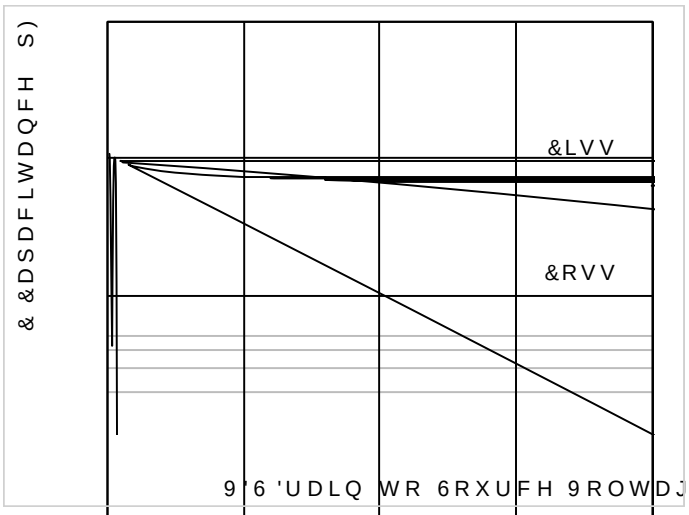
■ **Electrical Characteristics** (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units

v 7\SLFDO 3HUIRUPDQFH &KDUDFWHULVWLFV



)LJXUH 2XWSXW &KDUDFWHULVWLFV)LJXUH 7UDQVIHU &KDUDFWHULVWLFV



)LJXUH &DSDFLWDQFH &KDUDFWHULVWLFV

)LJXUH 2Q 5HVLVWDQFH 9DULDWLRQ ZLWK 6RXUFH 9ROWDJH)LJXUH 1RUPDOL]HG 2Q 5HV

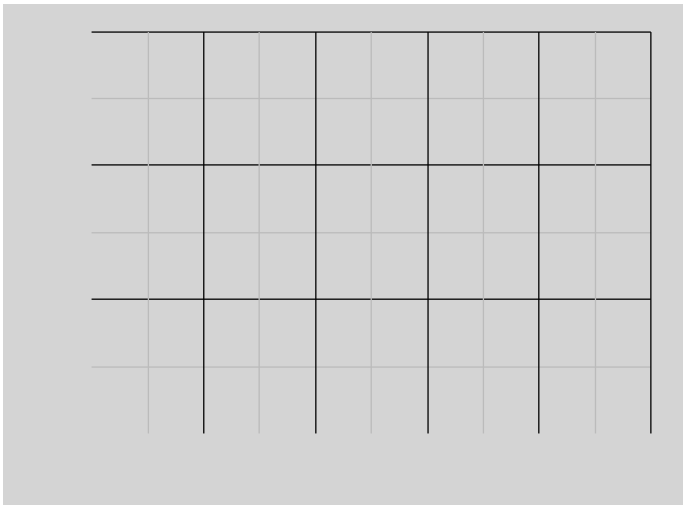


Figure 7. $R_{DS(on)}$ VS Drain Current

Figure 8. Forward characteristics of reverse diode

Figure 9. Normalized breakdown voltage

Figure 10. Normalized Threshold voltage

Figure 11. Current dissipation

Figure 12. Power dissipation

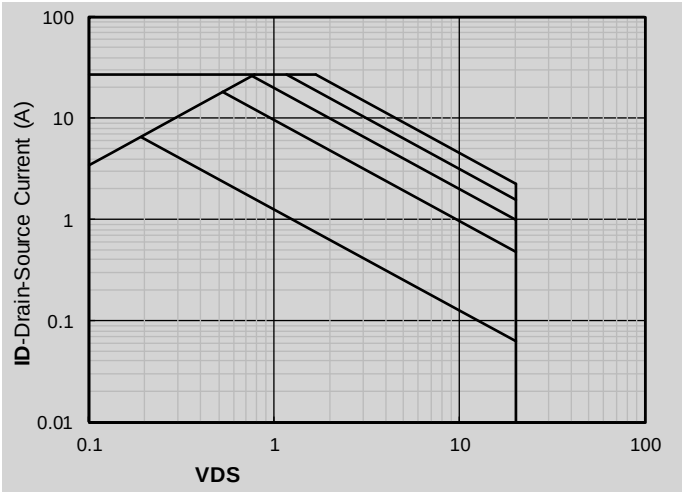
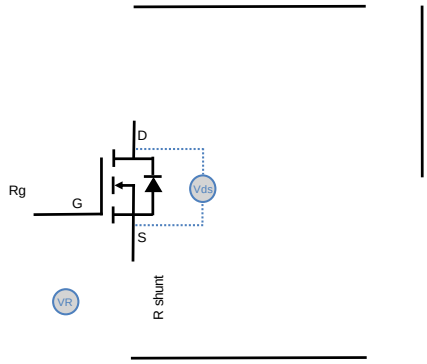


Figure 13. Maximum Transient Thermal Impedance

Figure 14. Safe Operation Area


D
Rg
G
Vds
S
VR
R shunt