N-Channel Enhancement Mode Field Effect Transistor

Product Summary

- V_{DS} 120V
- I_D 90A
- $R_{DS(ON)}$(at V_{GS}=10V) 9mΩ
- $R_{DS(ON)}$(at V_{GS}=4.5V) 11mΩ
- 100% EAS Tested
- 100% V_{DS} Tested

General Description

- Split gate trench MOSFET technology
- Excellent package for heat dissipation
- High density cell design for low $R_{DS(ON)}$
- Epoxy Meets UL 94 V-0 Flammability Rating
- Halogen Free

Applications

- Power switching application
- Uninterruptible power supply
- DC-DC convertor

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

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	120	V
Gate-source Voltage		V_{GS}	±20	V
Drain Current	T_A=25℃	I_D	11	A
	T_A=100℃		7	
	T_C=25℃		90	
	T_C =100℃		56	

■ Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Static Parameter						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}= 0V, I_D=250μA	120	-	-	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=120V, V_{GS}=0V	-	-	1	μA
		V_{DS}=120V, V_{GS}=0V, Tj=150℃	-	-	100	
Gate-Body Leakage Current	I_{GSS}	V_{GS}= ±20V, V_{DS}=0V	-	-	±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}= V_{GS}, I_D=250μA	1	2	3	V
Static Drain-Source On-Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=45A	-	7	9	mΩ
		V_{GS}=10V, I_D=20A		7	9	
		V_{GS}=4.5V, I_D=20A	-	8.5	11	

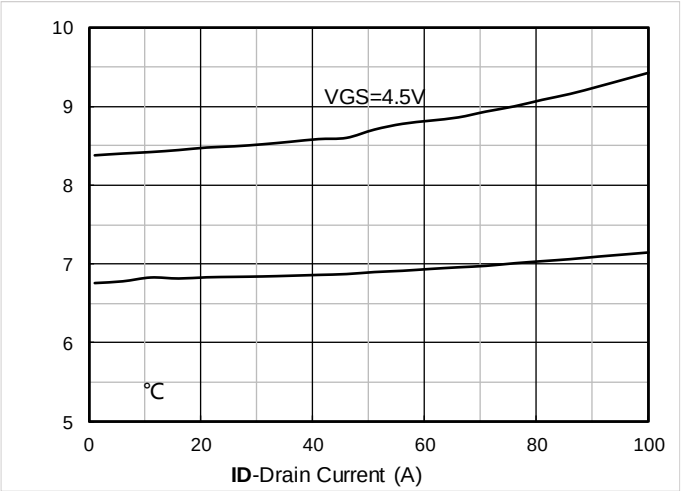


Figure 7. $R_{DS(on)}$ VS Drain Current

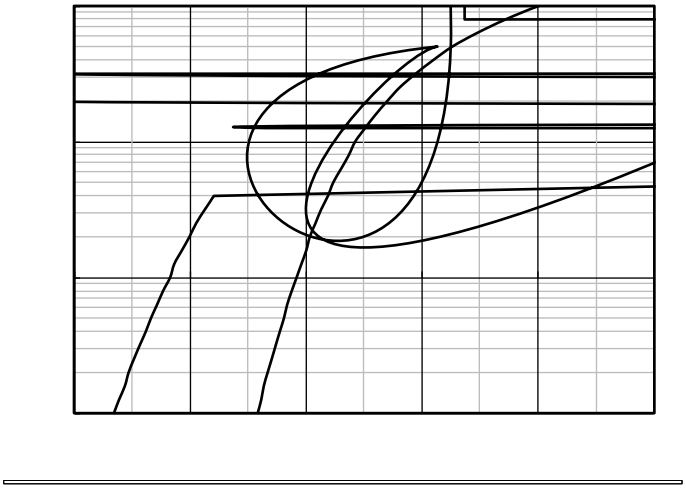


Figure 8. Forward characteristics of reverse diode

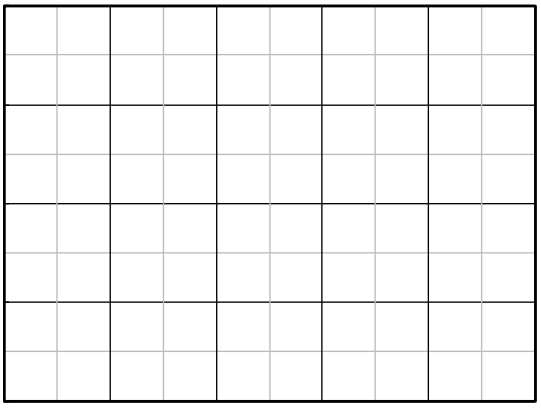


Figure 9. Normalized breakdown voltage

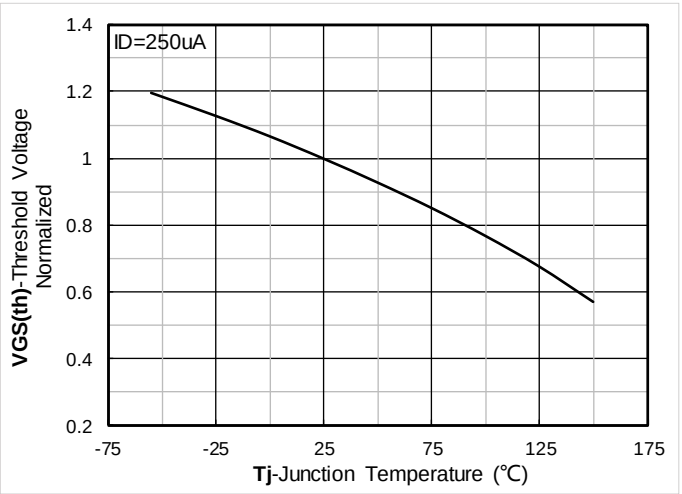


Figure 10. Normalized Threshold voltage

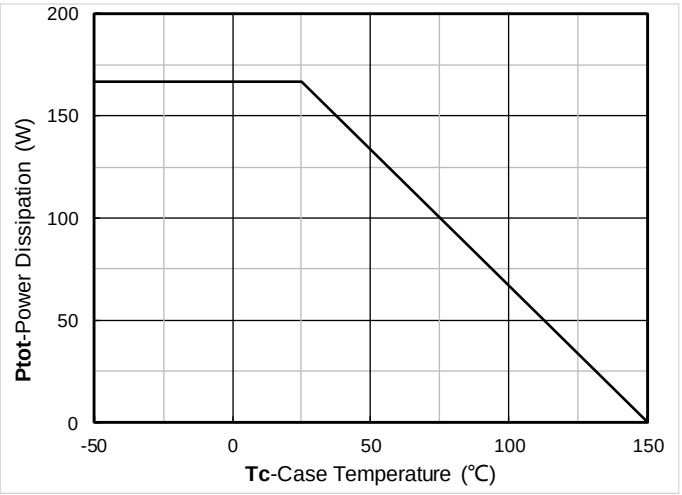
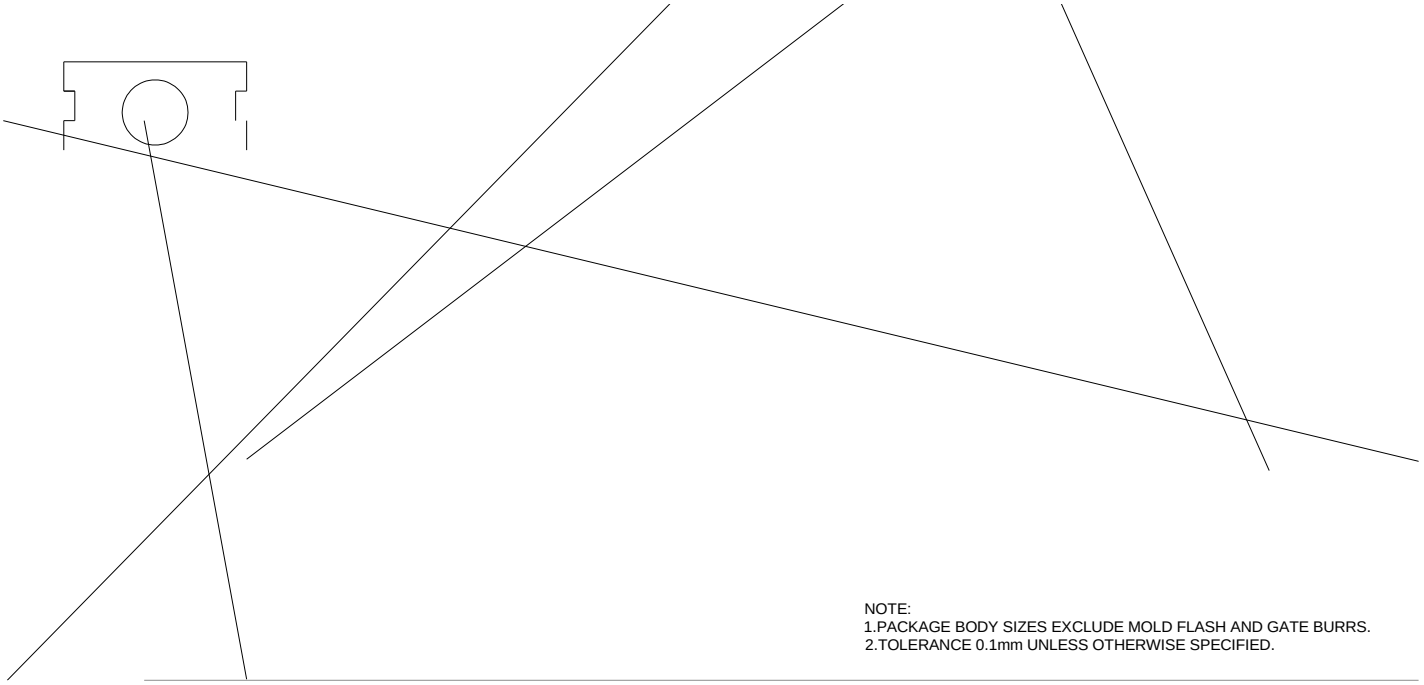


Figure 11. Current dissipation

Figure 12. Power dissipation

■ TO-220AB-D Package information



NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.