



# YJP90G12A

## N-Channel Enhancement Mode Field Effect Transistor

### Product Summary

$V_{DS}$	120V
$I_D$	90A
$R_{DS(ON)}$ ( at $V_{GS}=10V$ )	9m
$R_{DS(ON)}$ ( at $V_{GS}=4.5V$ )	11m
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		$V_{GS}$	$\pm 20$	V
Drain Current	$T_A=25^{\circ}C$	$I_D$	11	A
	$T_A=100^{\circ}C$		7	
	$T_C=25^{\circ}C$		90	
	$T_C=100^{\circ}C$		56	



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## Electrical Characteristics ( $T_J=25$ unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units
<b>Static Parameter</b>						
Drain-Source Breakdown Voltage	$BV_{DSS}$	$V_{GS}=0V, I_D=250\mu A$	120	-	-	V
Zero Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=120V, V_{GS}=0V$	-	-	1	$\mu A$
		$V_{DS}=120V, V_{GS}=0V, T_J=150^\circ C$	-	-	100	
Gate-Body Leakage Current	$I_{GSS}$	$V_{GS}=\pm 20V, V_{DS}=0V$	-	-	$\pm 100$	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=250\mu A$	1	2	3	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V, I_D=45A$	-	7	9	m
		$V_{GS}=10V, I_D=20A$	-	7	9	
		$V_{GS}=4.5V, I_D=20A$	-	8.5	11	





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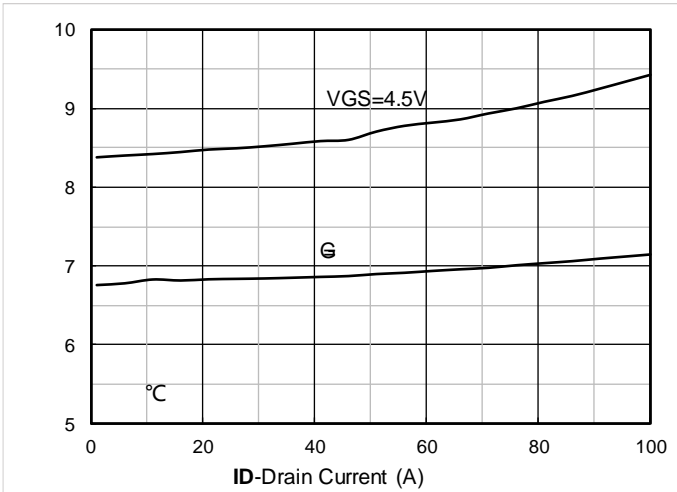


Figure 7. RDS(on) VS Drain Current

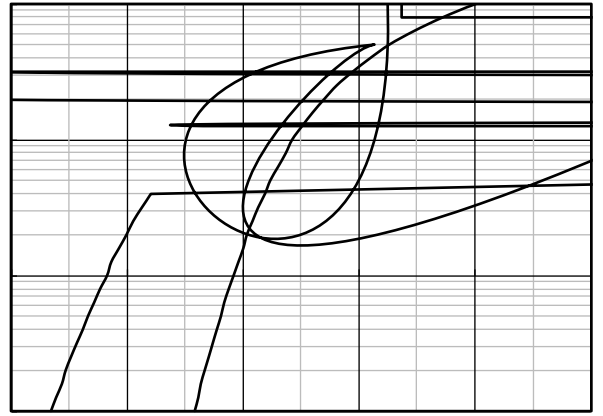


Figure 8. Forward characteristics of reverse diode

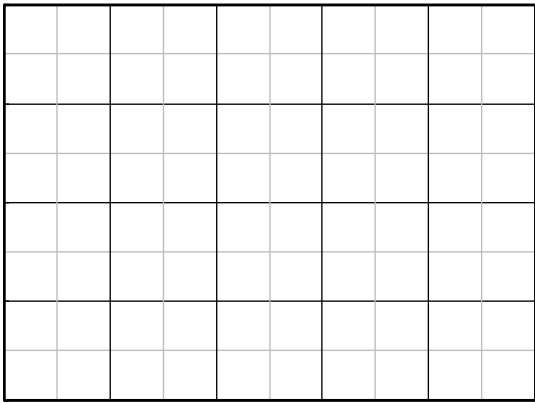


Figure 9. Normalized breakdown voltage

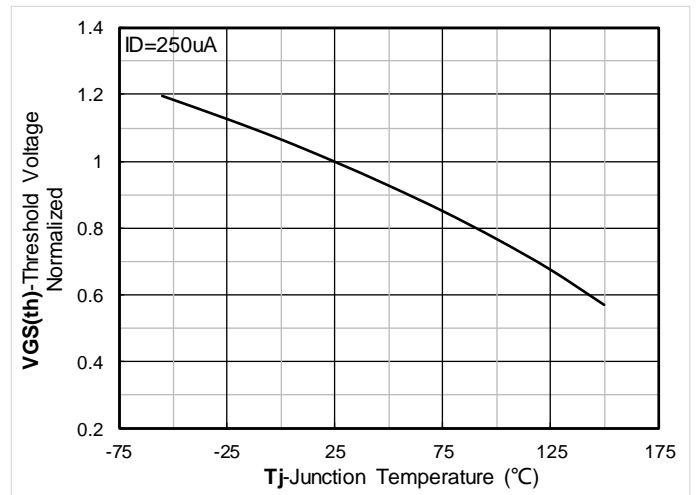


Figure 10. Normalized Threshold voltage

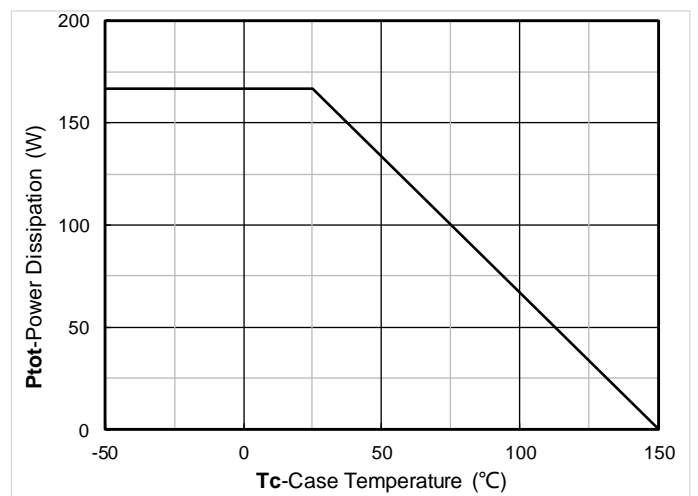


Figure 11. Current dissipation

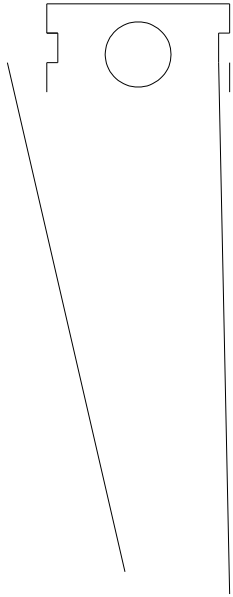
Figure 12. Power dissipation







TO-220AB-D Package information



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

