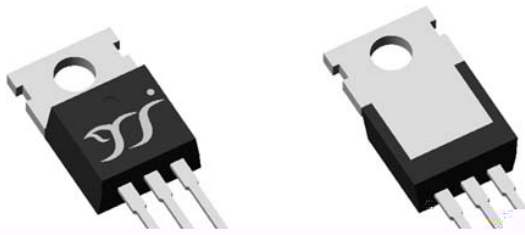




N-Channel Enhancement Mode Field Effect Transistor



Product Summary

V_{DS}	120V
I_D	90A
$R_{DS(ON)}$ (at $V_{GS}=10V$)	9m
$R_{DS(ON)}$ (at $V_{GS}=6V$)	12m
100% EAS Tested	
100% VDS 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	12	A
	$T_A=100$		7.5	
	$T_C=25$		90	
	$T_C=100$		56	
Pulsed Drain Current ^A		I_{DM}	360	A
Avalanche energy ^B		EAS	462.25	mJ
Total Power Dissipation ^C	$T_A=25$	P_D	3.5	W
	$T_A=100$		1.4	
	$T_C=25$		147	
	$T_C=100$		58	
Junction and Storage Temperature Range		T_J, T_{STG}	-55 +150	

Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient ^D	Steady-State	R_{JA}	28	35	/W
Thermal Resistance Junction-to-Case	Steady-State	R_{JC}	0.7	0.85	

Ordering Information (Example)

PREFERRED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
YJP90G12H	B1	YJP90G12H	50	/	5000	Tube

Max	Units
	V
00	μ A
00	nA
8	V
9	m
9	
2	
2	V
0	A



YJP90G12H

Typical Electrical and Thermal Characteristics Diagrams

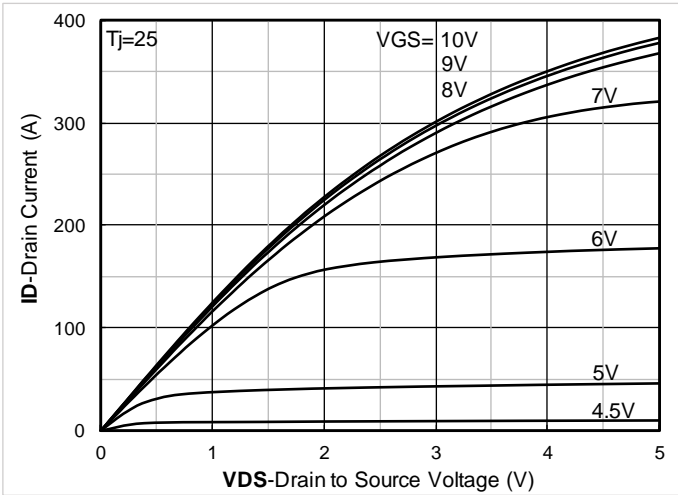


Figure 1. Output Characteristics

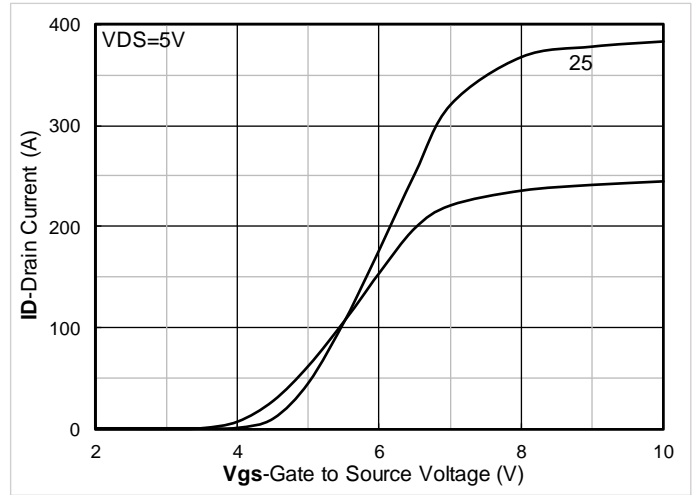


Figure 2. Transfer Characteristics

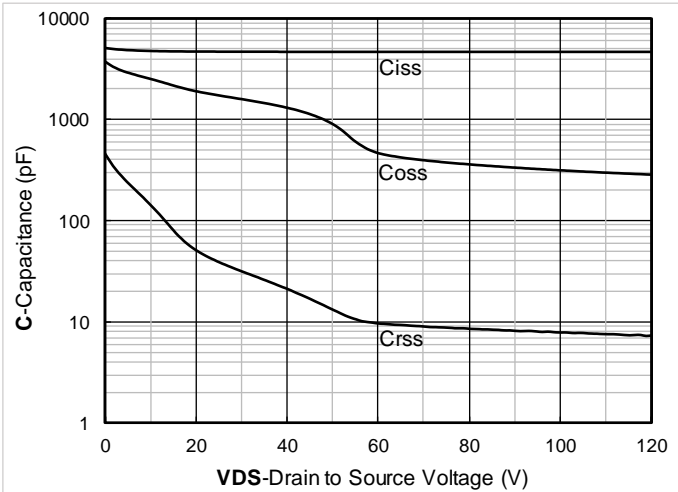


Figure 3. Capacitance Characteristics

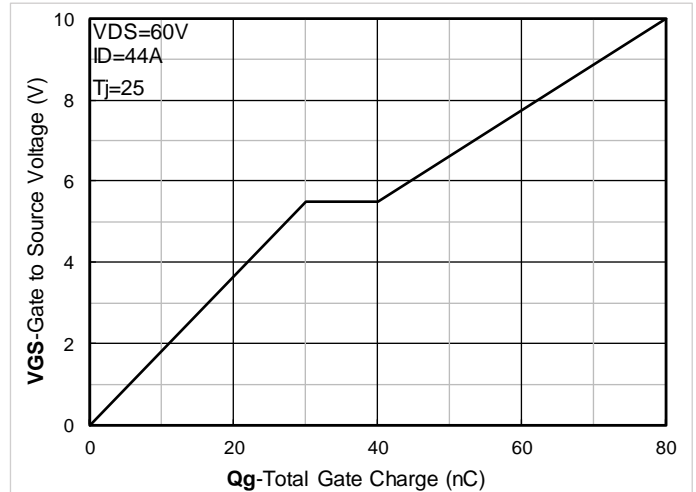
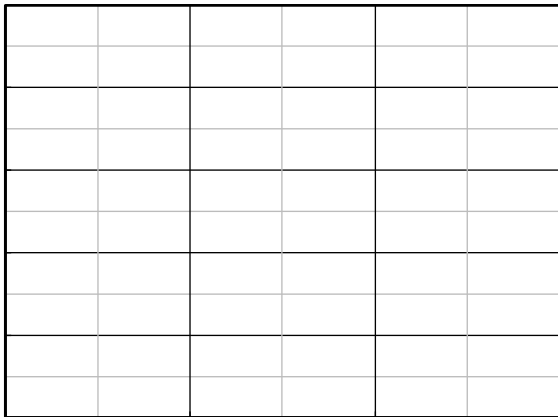


Figure 4. Gate Charge





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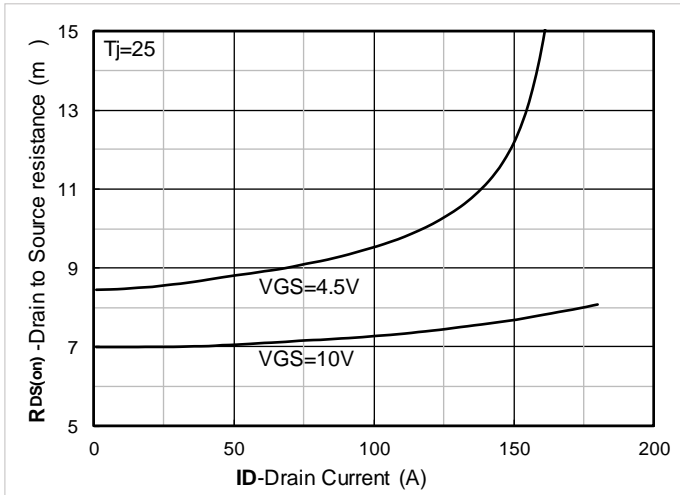


Figure 7. $R_{DS(on)}$ VS Drain Current

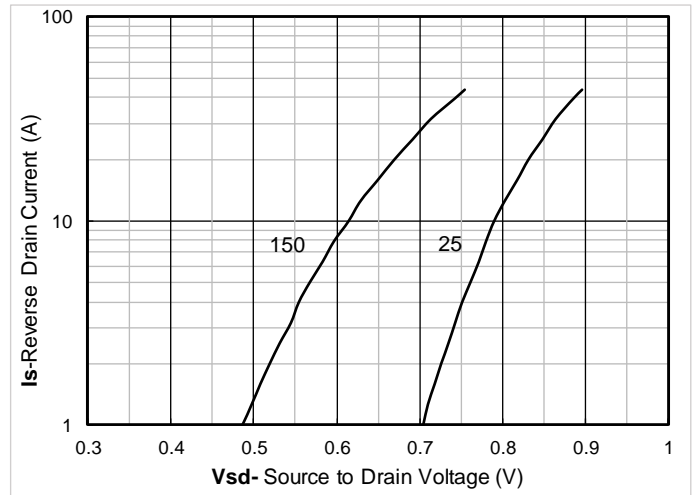


Figure 8. Forward characteristics of reverse diode

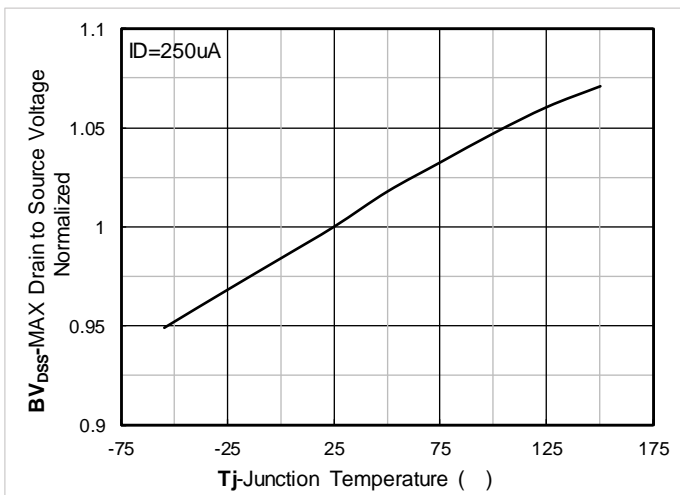


Figure 9. Normalized breakdown voltage

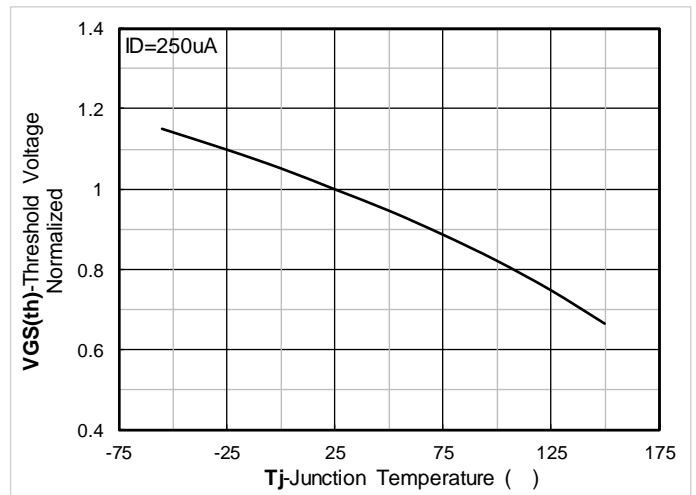


Figure 10. Normalized Threshold voltage

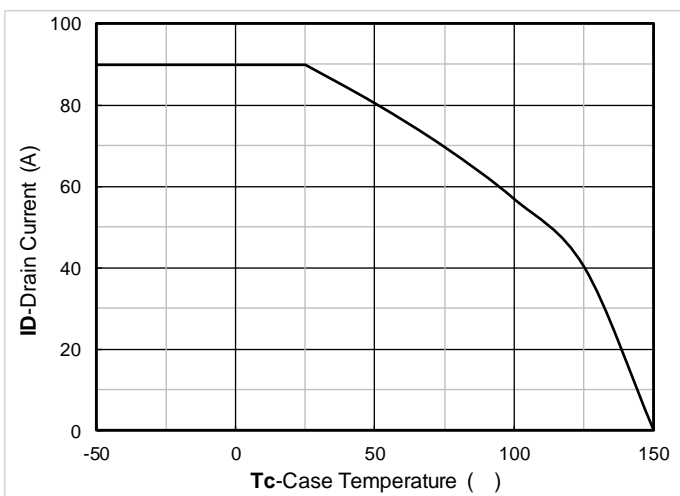


Figure 11. Current dissipation

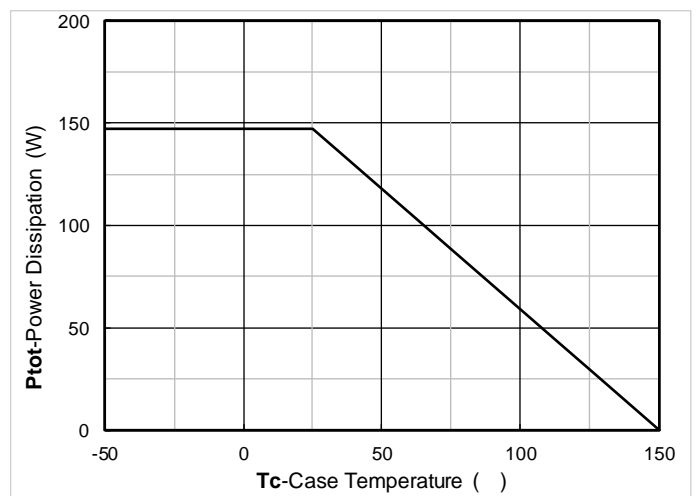


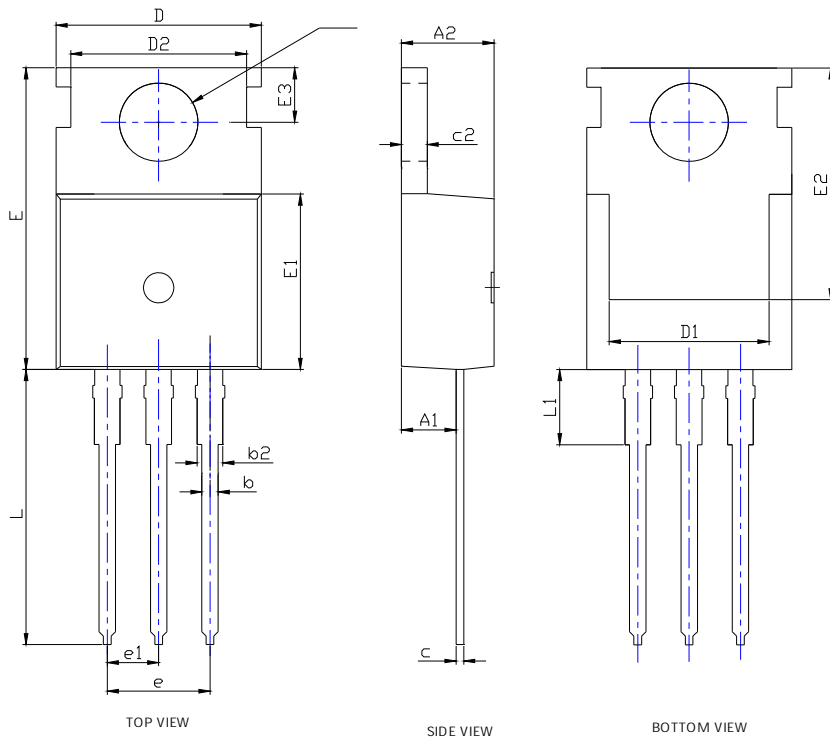
Figure 12. Power dissipation

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TO-220AB-C Package information



SYMBOL	DIMENSIONS			
	INCHES		Millimeter	
	MIN.	MAX.	MIN.	MAX.
A1	0.091	0.098	2.300	2.500
A2	0.173	0.181	4.400	4.600
b	0.028	0.035	0.700	0.900
b2	0.049	0.056	1.250	1.420
c	0.018	0.022	0.450	0.550
c2	0.049	0.053	1.250	1.350
D	0.382	0.402	9.700	10.200
D1	0.295	0.331	7.500	8.400
D2	0.335	0.350	8.500	8.900
E	0.602	0.634	15.300	16.100
E1	0.358	0.366	9.100	9.300
E2	0.497	0.525	12.630	13.330
E3	0.108BSC		2.750BSC	
e	0.200BSC		5.080BSC	
e1	0.100BSC		2.540BSC	
L	0.512	0.531	13.000	13.500
L1	---	0.138	---	3.500
∅	0.140	0.148	3.550	3.750

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



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