P-Channel Enhancement Mode Field Effect Transistor

Product Summary

V_{DS}	-100V
I_D	-30A
$R_{DS(ON)}$(at V_{GS}=-10V)	56 mohm
$R_{DS(ON)}$(at V_{GS}=-4.5V)	62 mohm

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

DC-DC Converters
Power management functions

Absolute Maximum Ratings (T_A=25 unless otherwise noted)

Parameter		Symbol	Limit	Unit
Drain-source Voltage		V_{DS}	-100	V
Gate-source Voltage		V_{GS}	20	V
Drain Current	Tc=25	I_D	-30	A
	Tc=100		-19.2	
Pulsed Drain Current [A]		I_{DM}	-120	A
Avalanche energy [B]		E_{AS}	162	mJ
Total Power Dissipation [C]	Tc=25	P_D	125	W
	Tc=100		50	
Junction and Storage Temperature Range		T_J ,T_{STG}	-55 +150	

Thermal resistance

Parameter		Symbol	Typ	Max	Units
Thermal Resistance Junction-to-Ambient [D]	t 10S	R_{JA}	12	15	/W
Thermal Resistance Junction-to-Ambient [D]	Steady-State		50	60	
Thermal Resistance Junction-to-Case	Steady-State	R	0.8	1.0	

Ordering Information (Example)

PREFERED P/N	PACKING CODE	Marking	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE

Electrical Characteristics (T_J=25 unless otherwise noted)

Parameter	Symbol	Conditions	Min	Typ	Max	Units

■ Typical Performance Characteristics

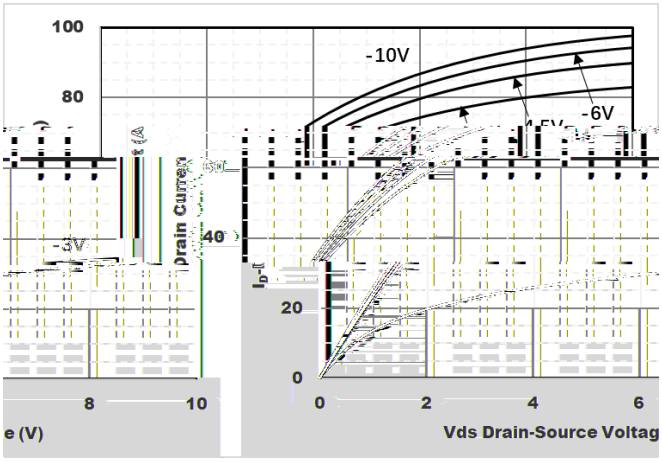


Figure1. Output Characteristics

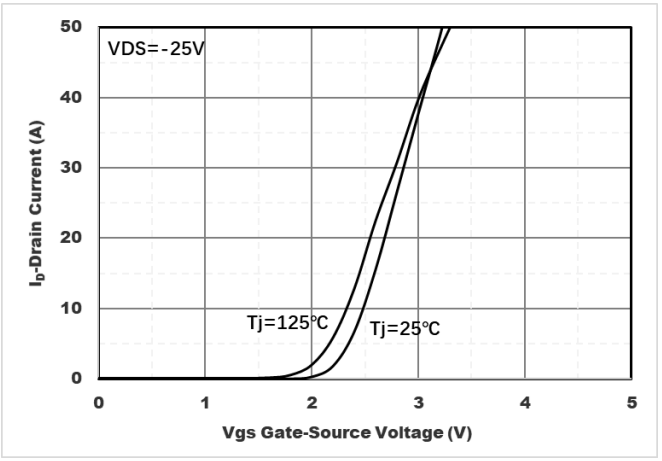


Figure2. Transfer Characteristics

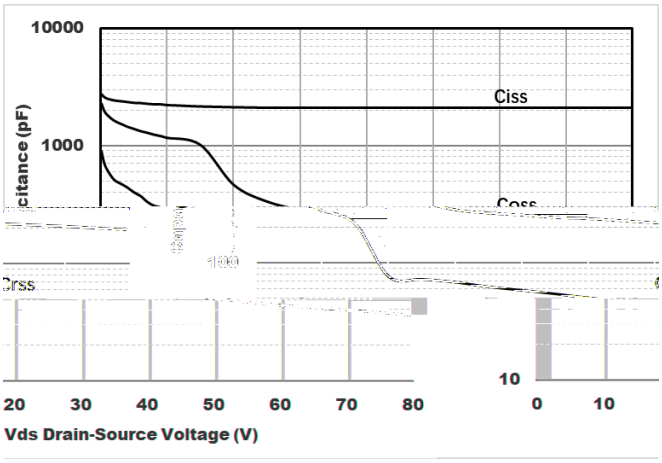


Figure3. Capacitance Characteristics

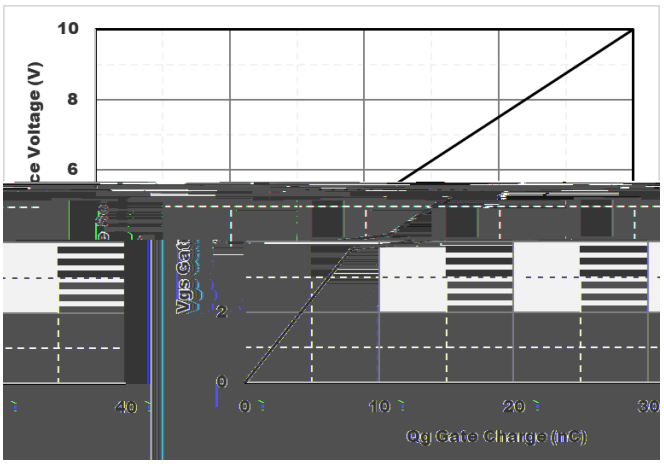


Figure4. Gate Charge

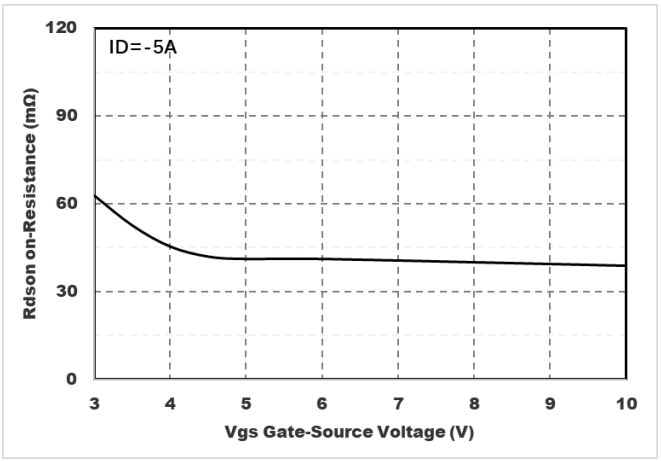


Figure5. : On-Resistance vs. Gate to Source Voltage

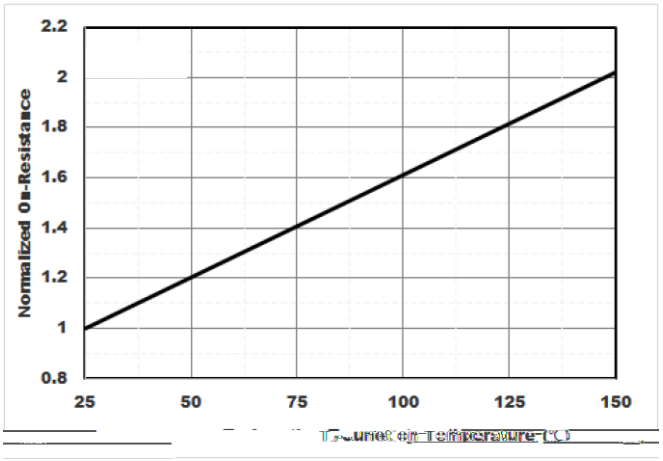


Figure6.Normalized On-Resistance

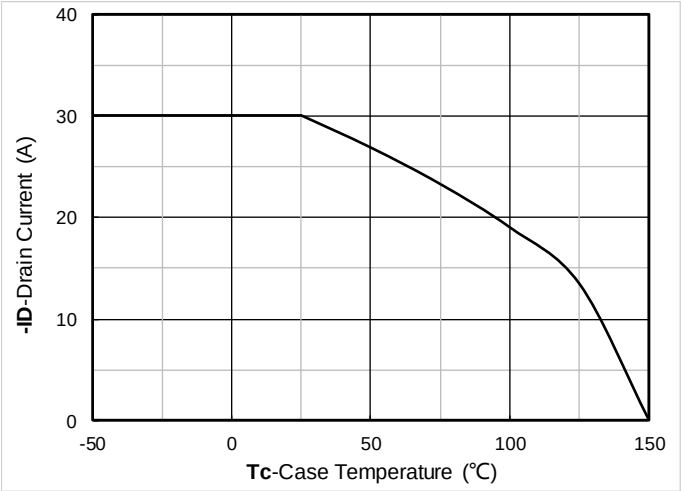


Figure7. Drain current

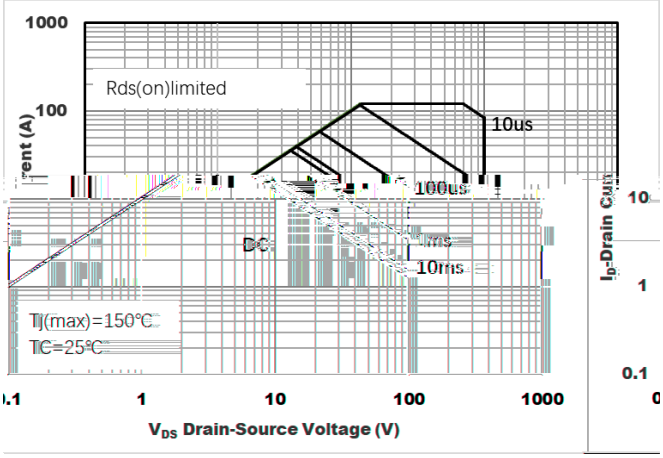


Figure8.Safe Operation Area

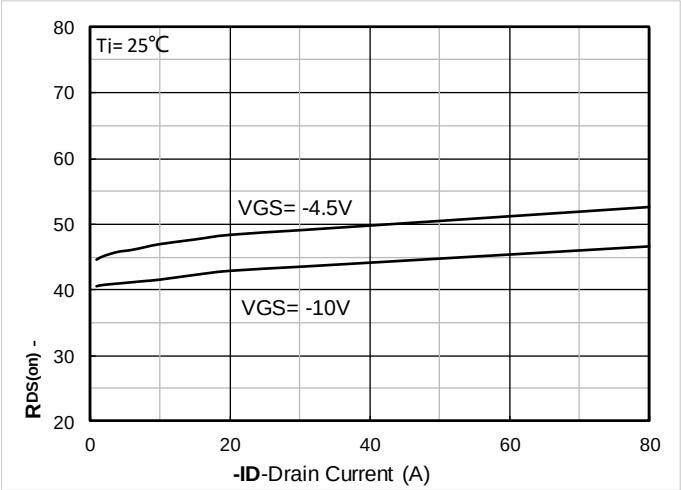


Figure9. $R_{DS(on)}$ VS Drain Current

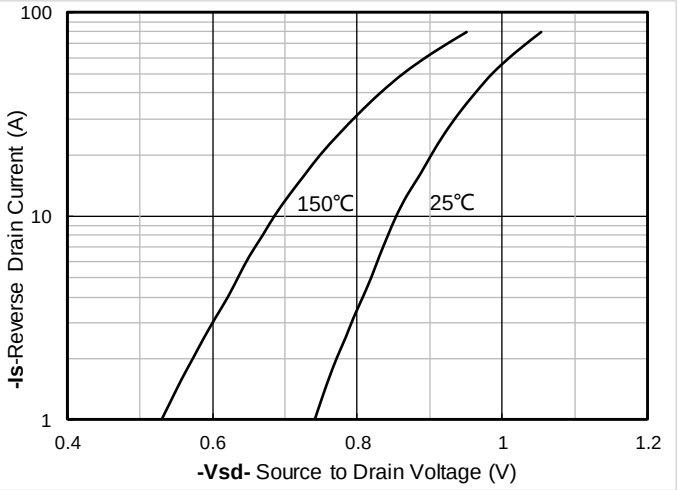


Figure 10. Forward characteristics of reverse diode

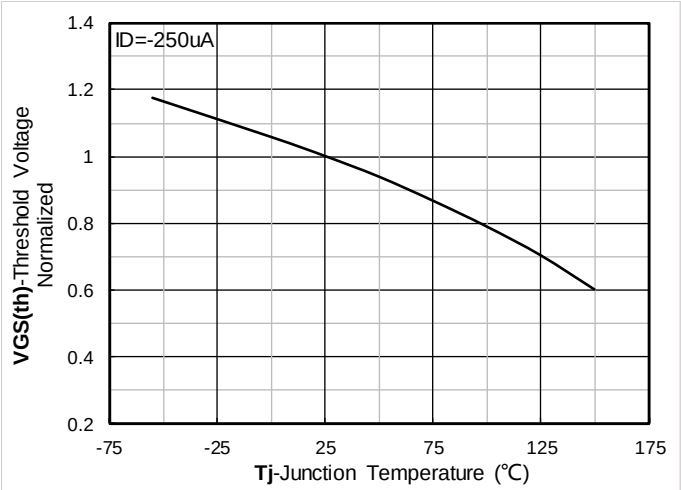


Figure 11. Normalized Threshold voltage

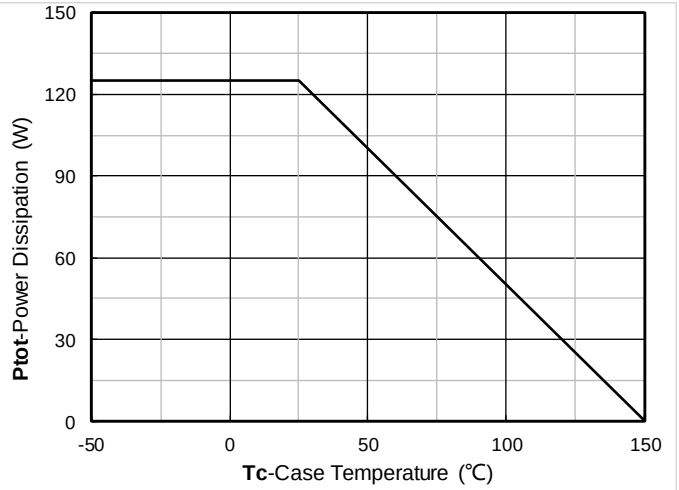


Figure 12. Power dissipation

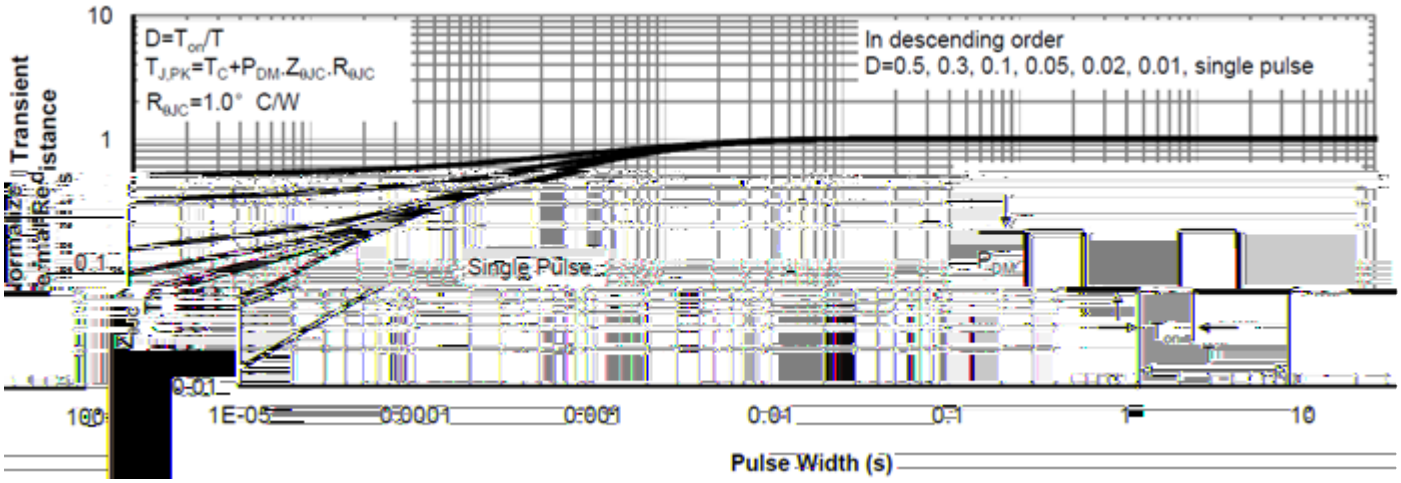
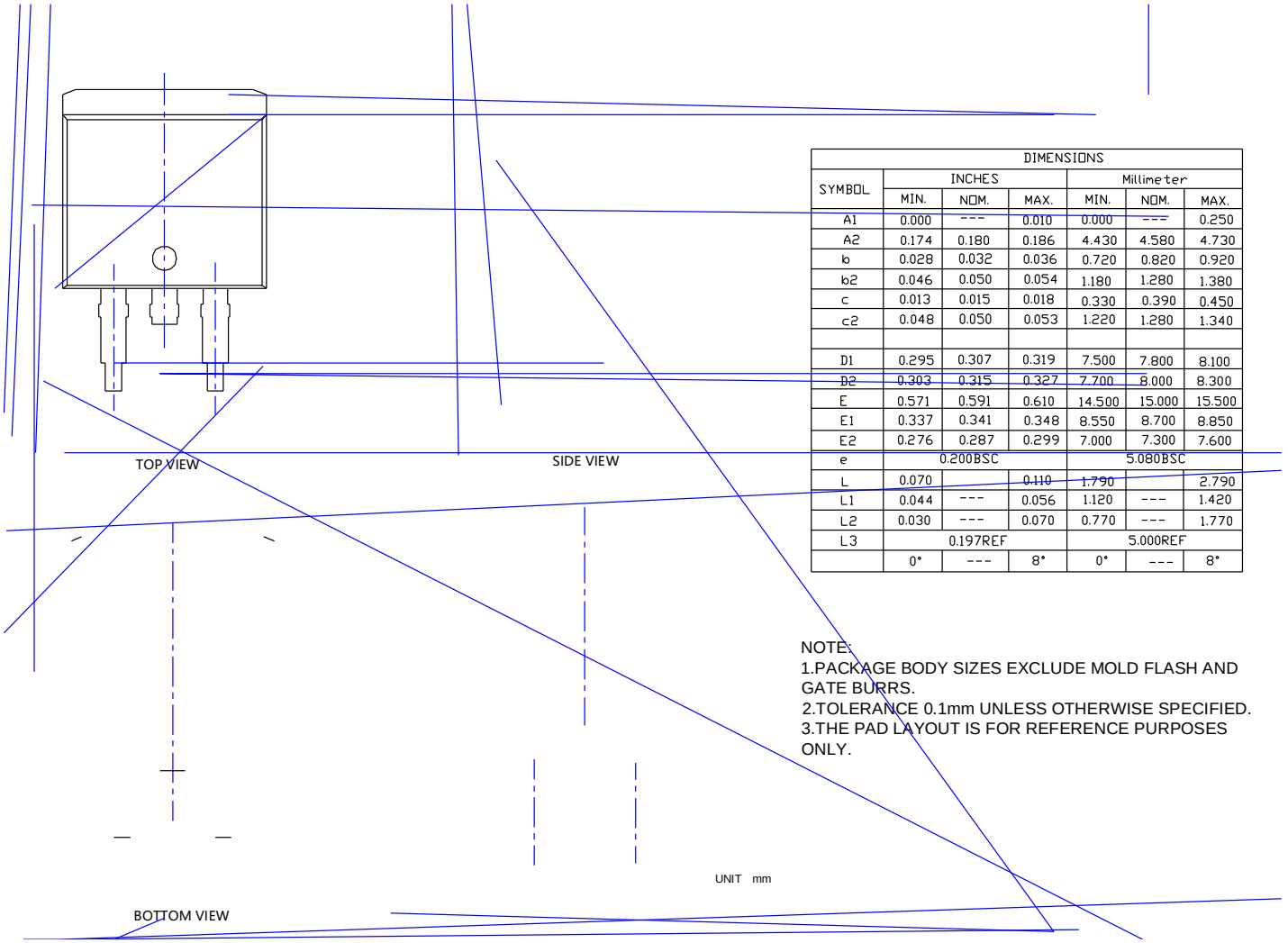


Figure13.Normalized Maximum Transient thermal impedance

TO-263-HY Package information



SYMBOL	DIMENSIONS					
	INCHES			Millimeter		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A1	0.000	---	0.010	0.000	---	0.250
A2	0.174	0.180	0.186	4.430	4.580	4.730
b	0.028	0.032	0.036	0.720	0.820	0.920
b2	0.046	0.050	0.054	1.180	1.280	1.380
c	0.013	0.015	0.018	0.330	0.390	0.450
c2	0.048	0.050	0.053	1.220	1.280	1.340
D1	0.295	0.307	0.319	7.500	7.800	8.100
D2	0.303	0.315	0.327	7.700	8.000	8.300
E	0.571	0.591	0.610	14.500	15.000	15.500
E1	0.337	0.341	0.348	8.550	8.700	8.850
E2	0.276	0.287	0.299	7.000	7.300	7.600
e	0.200BSC			5.080BSC		
L	0.070		0.110	1.790		2.790
L1	0.044	---	0.056	1.120	---	1.420
L2	0.030	---	0.070	0.770	---	1.770
L3	0.197REF			5.000REF		
	0°	---	8°	0°	---	8°

NOTE:
1.PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2.TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3.THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.

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