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FDS86267P-TP

P-Channel Enhancement Mode MOSFET

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FEATURES

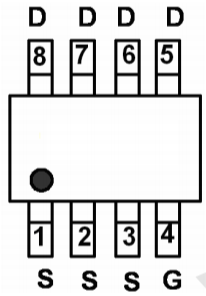
BV_{DSS}	-150V
I_D@V_{GS}=-10V, T_C=25°C	-4.4A
I_D@V_{GS}=-10V, T_A=25°C	-1.8A
$R_{DS(ON)}$ Typ. @V_{GS}=-10V, I_D=-1.5A	270mΩ

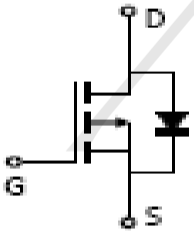
APPLICATIONS

- Low Gate Charge
- Fast Switching Characteristic
- ESD protected gate

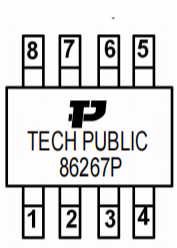
Package and Pin Configuration

SOP-8 top view





Marking:



Absolute Maximum Ratings (T_A=25°C)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		V_{DS}	-150	V
Gate-Source Voltage		V_{GS}	±20	
Continuous Drain Current @ V_{GS}=-10V, T_C=25°C	*a	I_D	-4.4	A
Continuous Drain Current @ V_{GS}=-10V, T_C=100°C	*a		-2.8	
Continuous Drain Current @ V_{GS}=-10V, T_A=25°C	*b		-1.8	
Continuous Drain Current @ V_{GS}=-10V, T_A=70°C	*b		-1.4	
Pulsed Drain Current	*c	I_{DM}	-17	
Continuous Body Diode Forward Current @ T_C=25°C	*a	I_S	-4.4	
Pulsed Body Diode Forward Current @ T_C=25°C	*a	I_{SM}	-17	
Avalanche Current @ L=0.1mH		I_{AS}	-15	
Avalanche Energy @ L=0.5mH		E_{AS}	25	mJ
Total Power Dissipation	T_C=25°C *a	P_D	14	W
	T_C=100°C *a		5.6	
	T_A=25°C *b		2.3	
	T_A=70°C *b		1.5	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55~+150	°C

Thermal Data

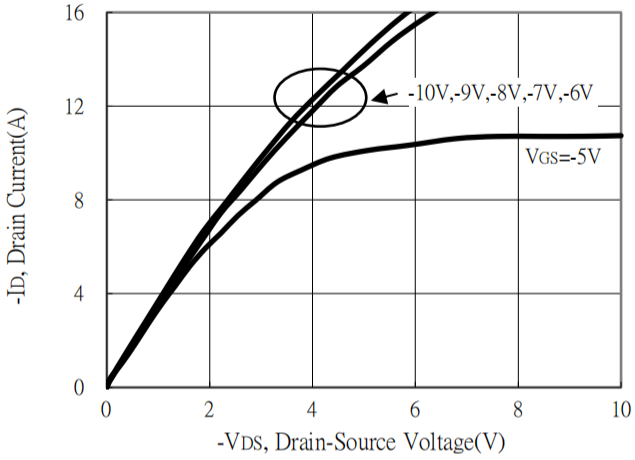
Parameter	Symbol	Steady State	Unit
Thermal Resistance, Junction-to-case	$R_{\theta JC}$	9.2	°C/W
Thermal Resistance, Junction-to-ambient *b	$R_{\theta JA}$	55	

Electrical Characteristics (T_A=25°C, unless otherwise specified)

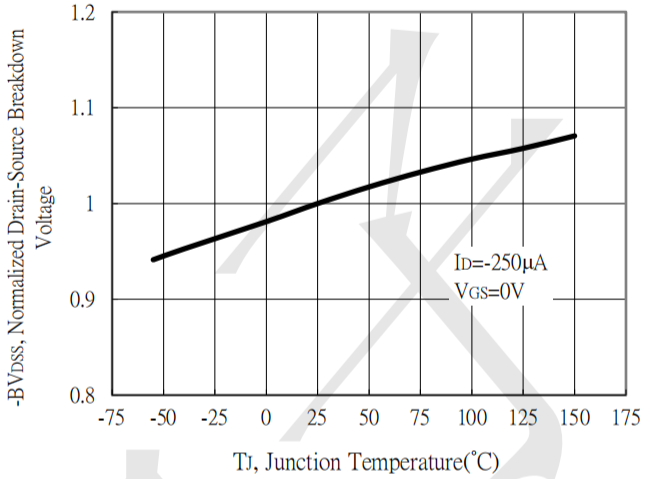
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV_{DSS}	-150	-	-	V	V_{GS}=0V, I_D=-250μA
$V_{GS(th)}$	-2	-	-4		V_{DS}=V_{GS}, I_D=-250μA
G_{FS}	-	4.2	-	S	V_{DS}=-10V, I_D=-1.5A
I_{GSS}	-	-	±10	μA	V_{GS}=±16V, V_{DS}=0V
I_{DSS}	-	-	-1		V_{DS}=-120V, V_{GS}=0V
$R_{DS(ON)}$	-	270	350	mΩ	V_{GS}=-10V, I_D=-1.5A
Dynamic					
Ciss	-	930	-	pF	V_{DS}=-75V, V_{GS}=0V, f=1MHz
Coss	-	55	-		
Crss	-	25	-		
Qg *1, 2	-	20	-	nC	V_{DS}=-75V, I_D=-1.3A, V_{GS}=-10V
Qgs *1, 2	-	4	-		
Qgd *1, 2	-	5	-		
$t_{d(ON)}$ *1, 2	-	80	-	ns	V_{DS}=-75V, I_D=-1.3A, V_{GS}=-10V, R_{GS}=6.5Ω
tr *1, 2	-	46	-		
$t_{d(OFF)}$ *1, 2	-	203	-		
t_f *1, 2	-	525	-		
Source-Drain Diode					
V_{SD} *1	-	-0.77	-1.2	V	I_S=-1.5A, V_{GS}=0V
trr	-	34	-	ns	I_F=-1.3A, dI_F/dt=100A/μs
Qrr	-	50	-	nC	

Typical Characteristics

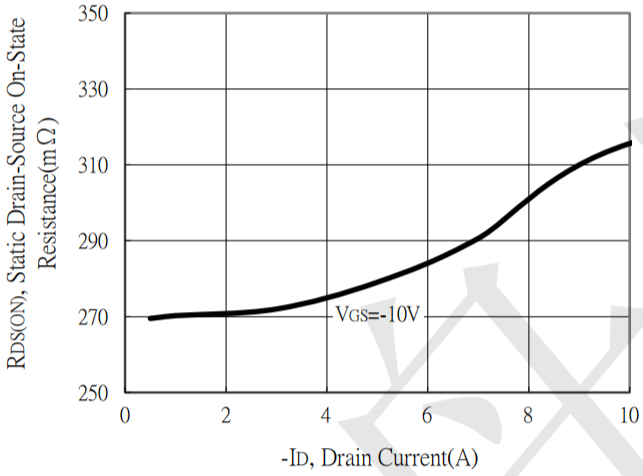
Typical Output Characteristics



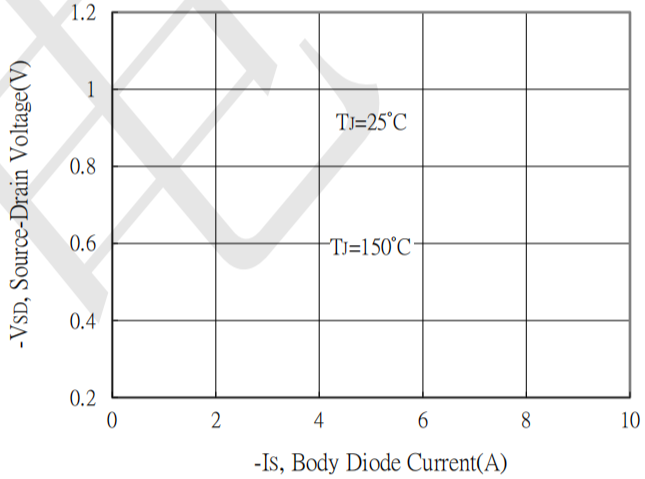
Breakdown Voltage vs Ambient Temperature



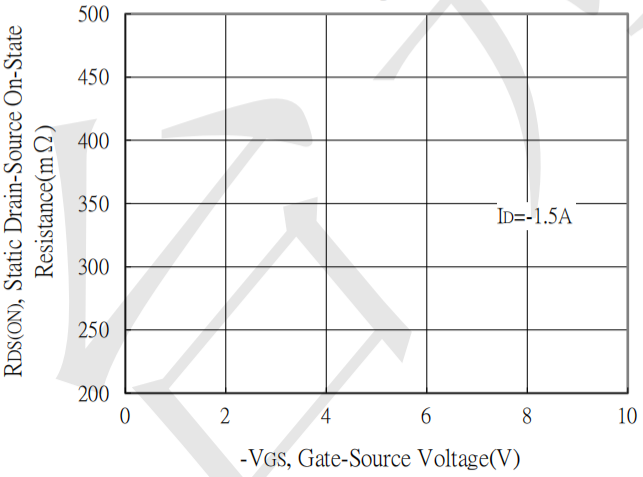
Static Drain-Source On-State resistance vs Drain Current



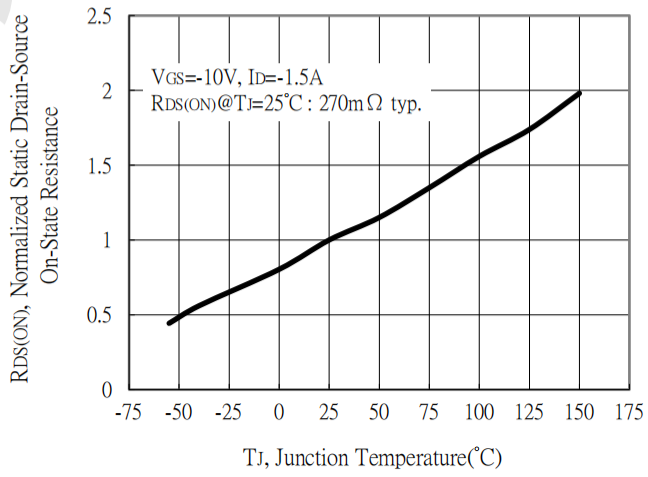
Body Diode Current vs Source-Drain Voltage



Static Drain-Source On-State Resistance vs Gate-Source Voltage

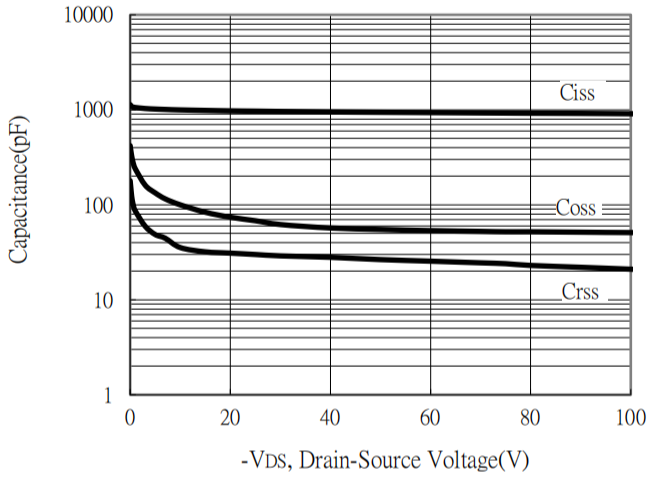


Drain-Source On-State Resistance vs Junction Temperature

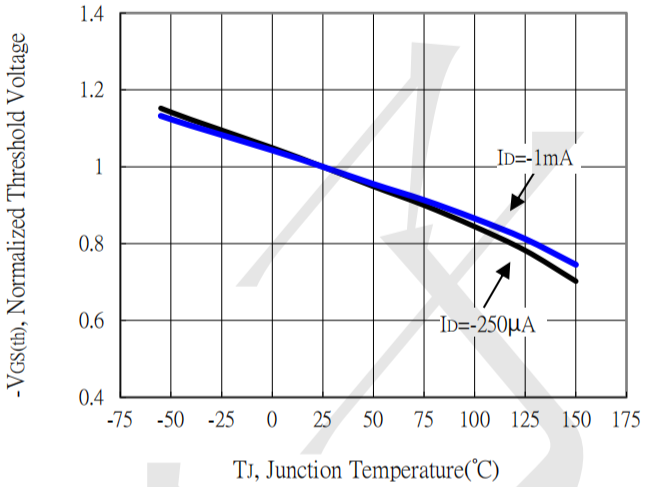


Typical Characteristics (Cont.)

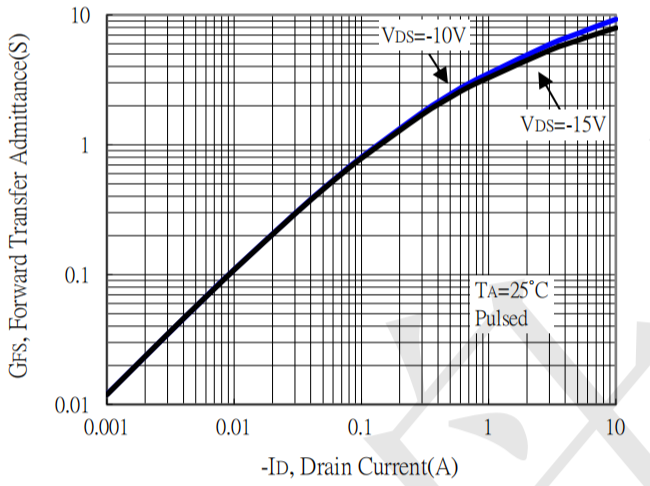
Capacitance vs Drain-to-Source Voltage



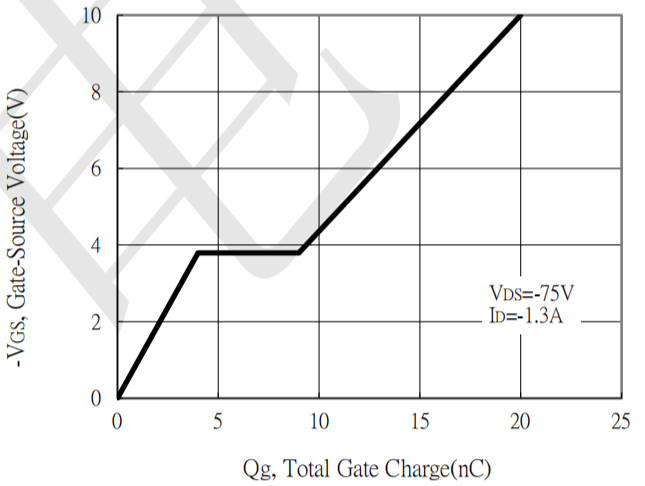
Threshold Voltage vs Junction Temperature



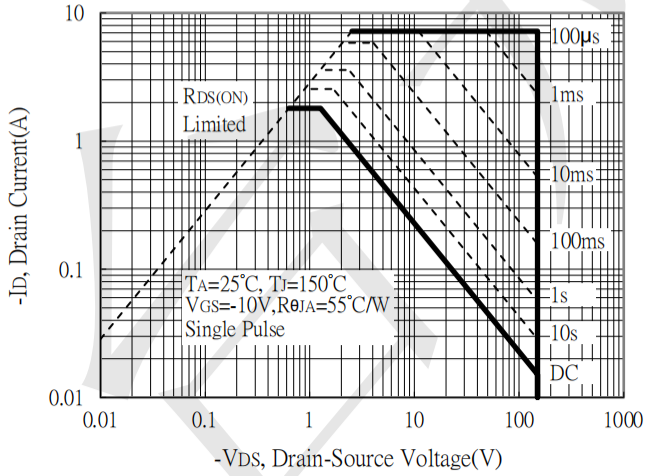
Forward Transfer Admittance vs Drain Current



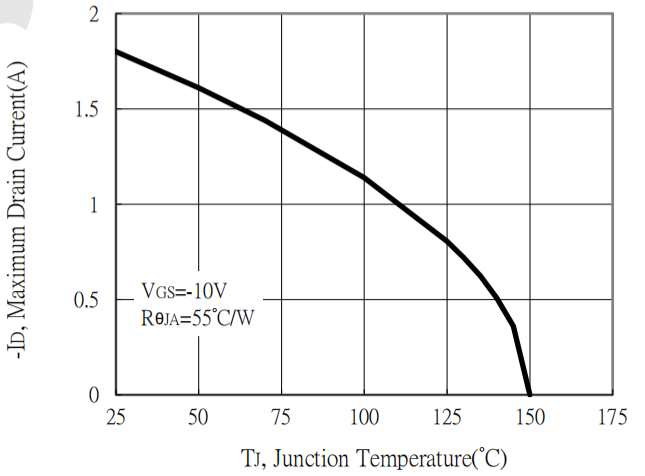
Gate Charge Characteristics



Maximum Safe Operating Area

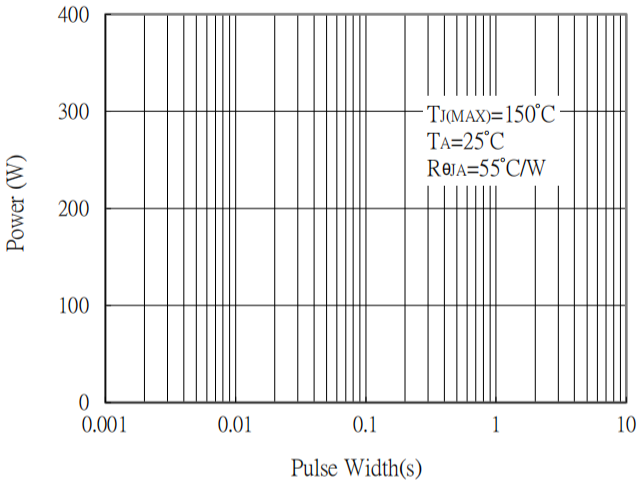


Maximum Drain Current vs Junction Temperature

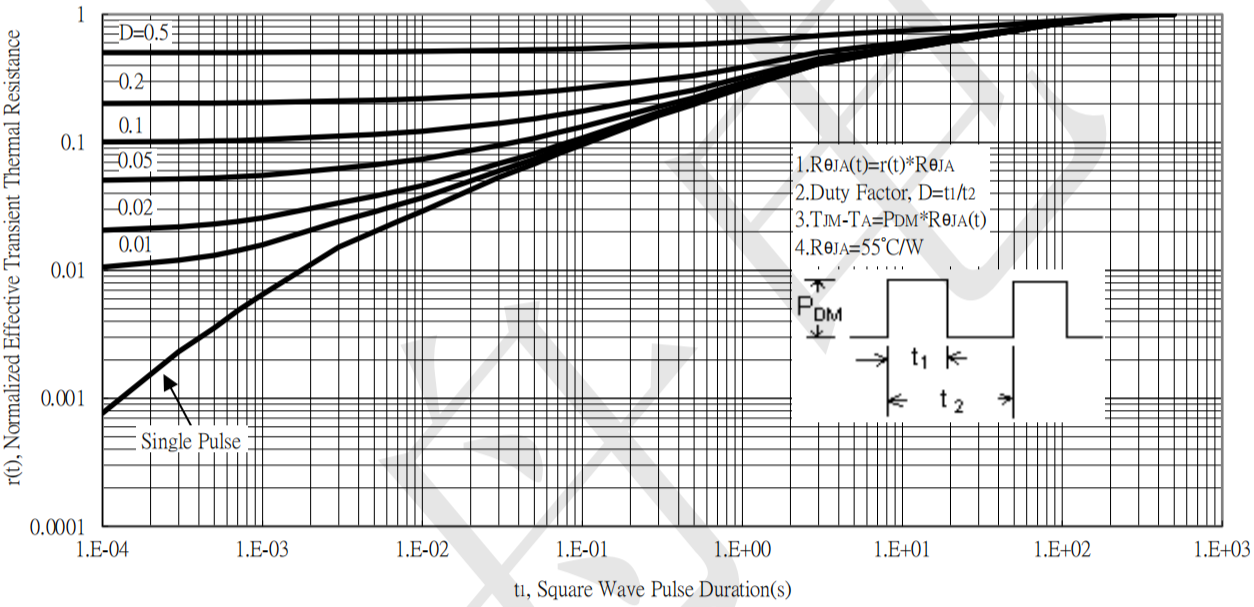


Typical Characteristics (Cont.)

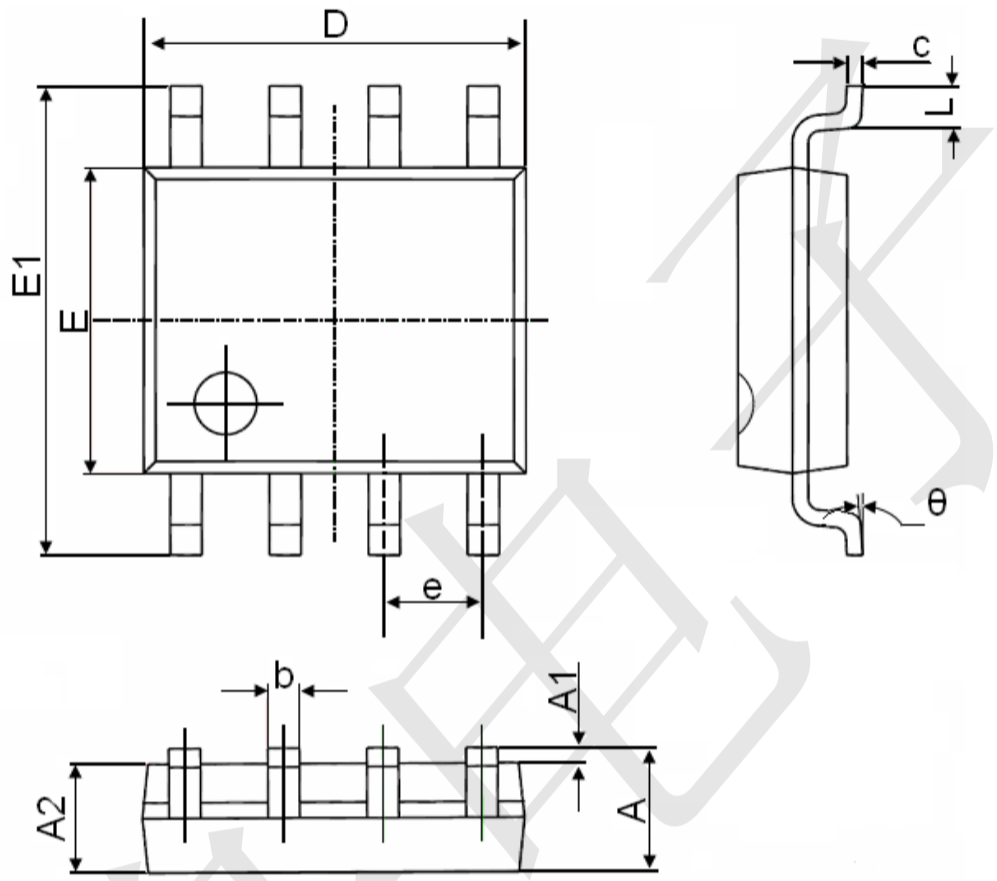
Single Pulse Power Rating, Junction to Ambient



Transient Thermal Response Curves



SOP-8 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.350	1.750	0.053	0.069
A1	0.100	0.250	0.004	0.010
A2	1.350	1.550	0.053	0.061
b	0.330	0.510	0.013	0.020
c	0.170	0.250	0.006	0.010
D	4.700	5.100	0.185	0.200
E	3.800	4.000	0.150	0.157
E1	5.800	6.200	0.228	0.244
e	1.270(BSC)		0.050(BSC)	
L	0.400	1.270	0.016	0.050
θ	0°	8°	0°	8°

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