

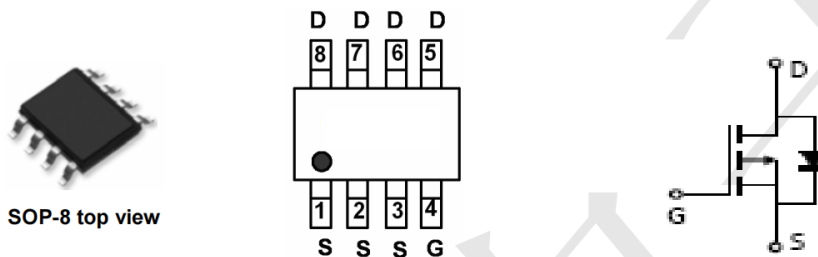
FEATURES

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

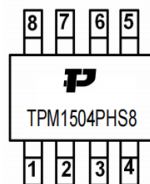
APPLICATIONS

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

Package and Pin Configuration



Marking:



Absolute Maximum Ratings ($T_A = 25^\circ C$)

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

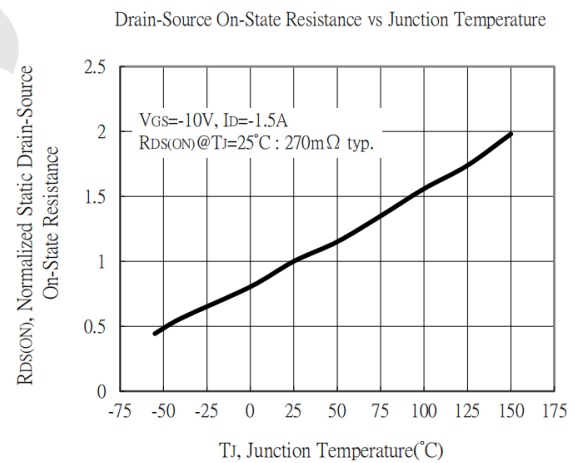
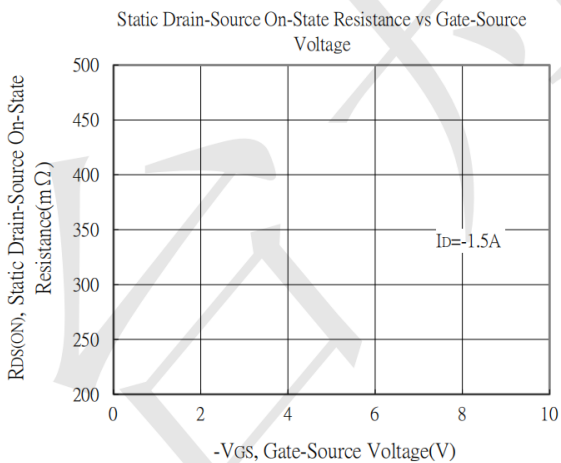
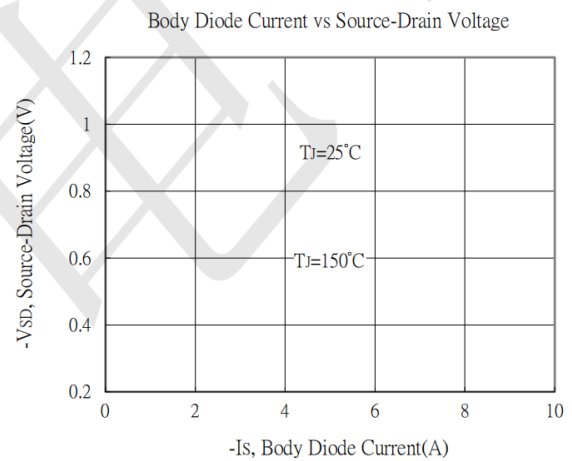
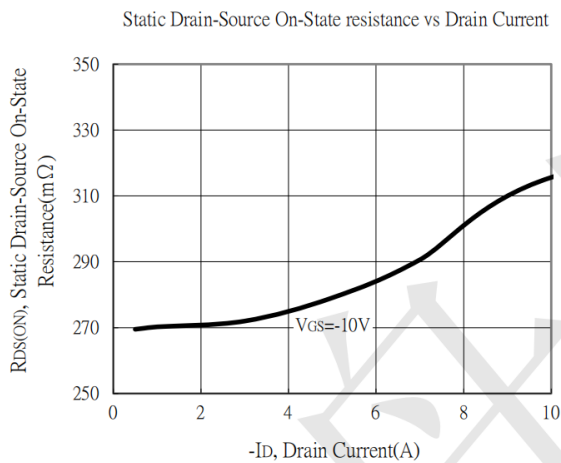
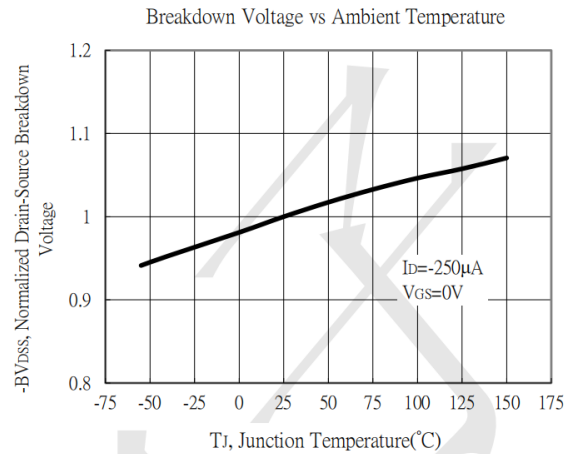
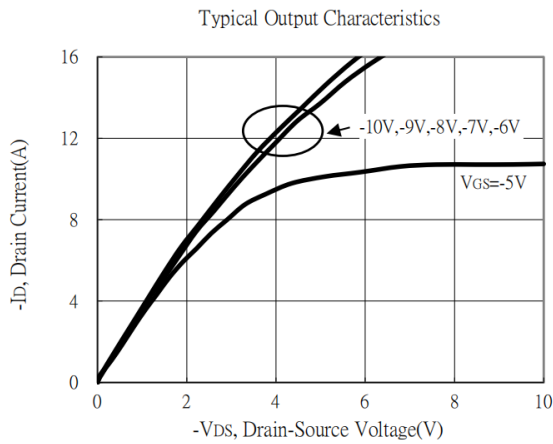
Thermal Data

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 ($T_A=25^\circ\text{C}$, unless otherwise specified)

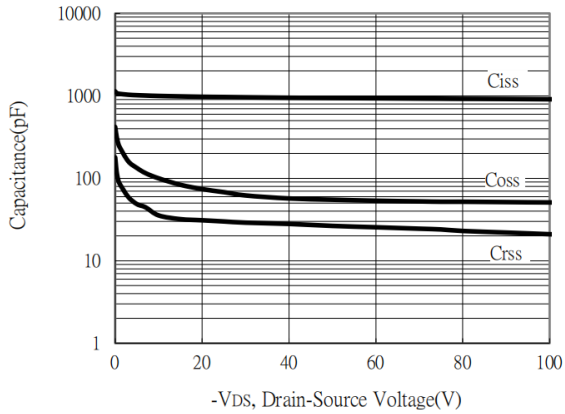
Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV_{DSS}	-150	-	-	V	$V_{GS}=0V, I_D=-250\mu A$
$V_{GS(th)}$	-2	-	-4		$V_{DS}=V_{GS}, I_D=-250\mu A$
G_{FS}	-	4.2	-	S	$V_{DS}=-10V, I_D=-1.5A$
I_{GSS}	-	-	± 10	μA	$V_{GS}=\pm 16V, V_{DS}=0V$
I_{DSS}	-	-	-1		$V_{DS}=-120V, V_{GS}=0V$
$R_{DS(ON)}$	-	270	350	m Ω	$V_{GS}=-10V, I_D=-1.5A$
Dynamic					
C_{iss}	-	930	-	pF	$V_{DS}=-75V, V_{GS}=0V, f=1\text{MHz}$
C_{oss}	-	55	-		
C_{rss}	-	25	-		
Q_g *1, 2	-	20	-	nC	$V_{DS}=-75V, I_D=-1.3A, V_{GS}=-10V$
Q_{gs} *1, 2	-	4	-		
Q_{gd} *1, 2	-	5	-		
$t_{d(ON)}$ *1, 2	-	80	-	ns	$V_{DS}=-75V, I_D=-1.3A, V_{GS}=-10V, R_{GS}=6.5\Omega$
t_r *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	$I_S=-1.5A, V_{GS}=0V$
t_{rr}	-	34	-	ns	$I_F=-1.3A, dI_F/dt=100A/\mu s$
Q_{rr}	-	50	-	nC	

Typical Characteristics

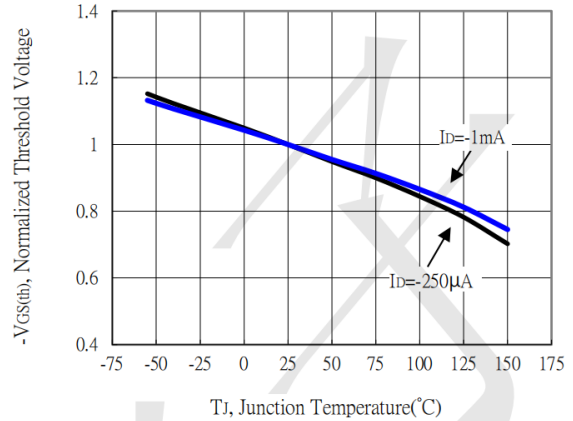


Typical Characteristics (Cont.)

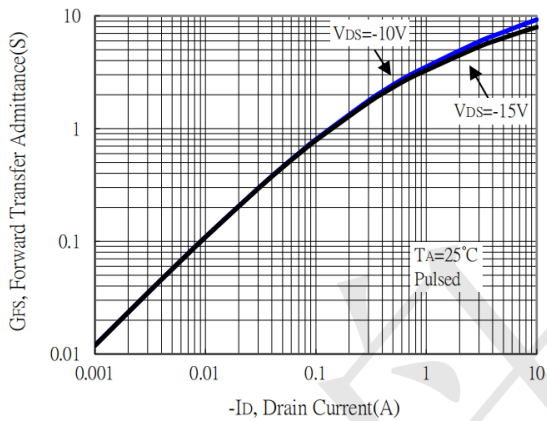
Capacitance vs Drain-to-Source Voltage



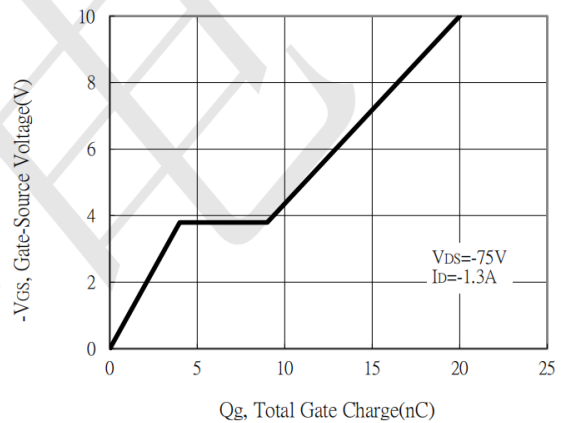
Threshold Voltage vs Junction Temperature



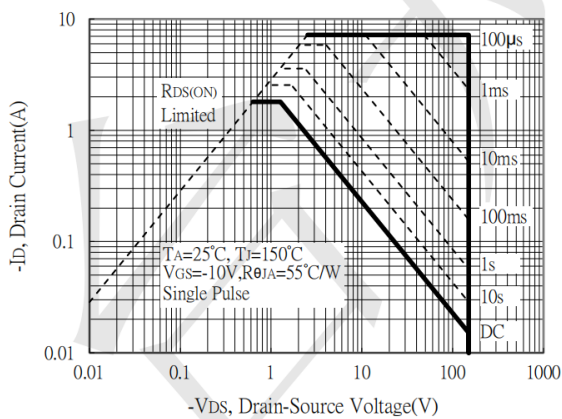
Forward Transfer Admittance vs Drain Current



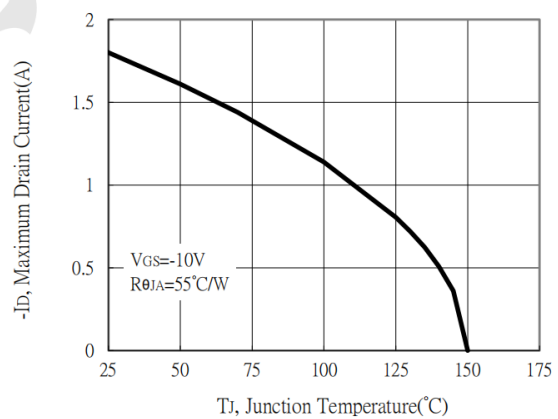
Gate Charge Characteristics



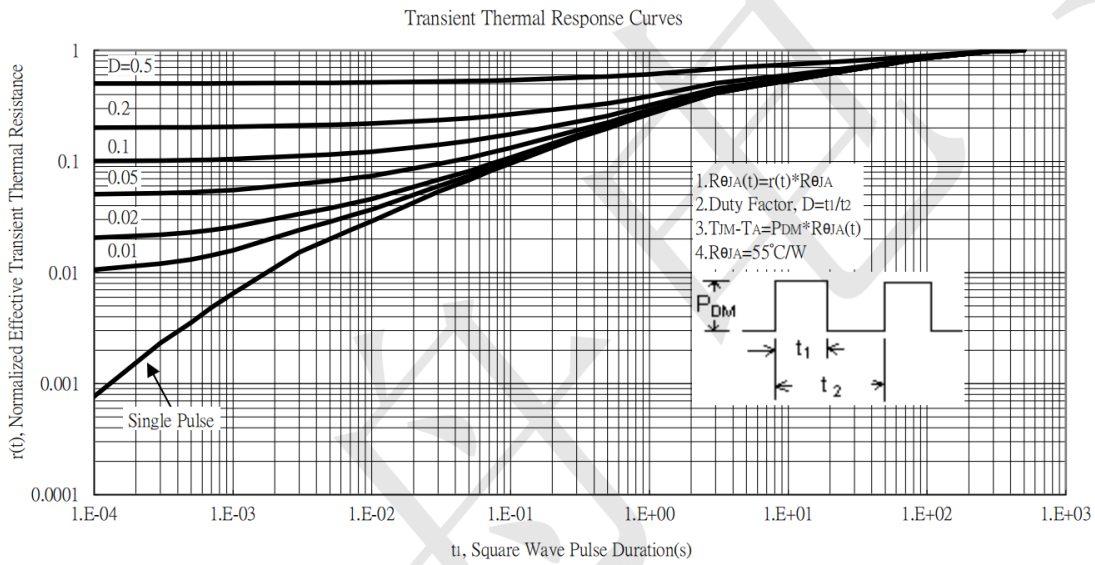
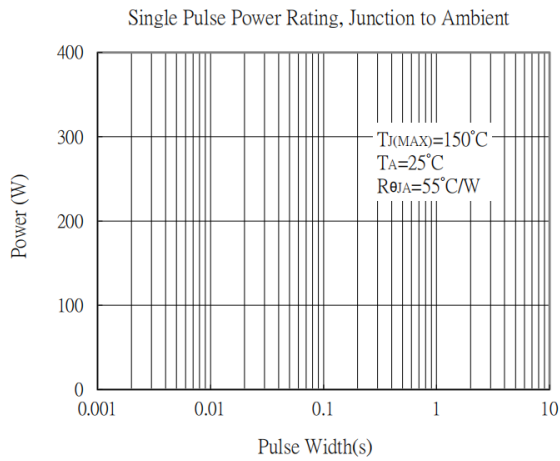
Maximum Safe Operating Area



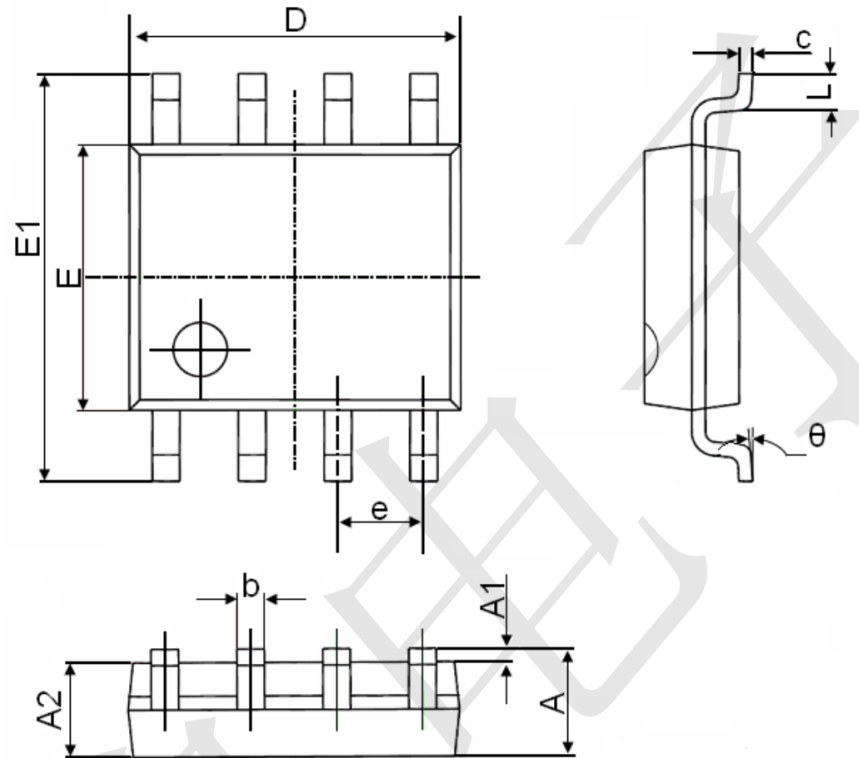
Maximum Drain Current vs Junction Temperature



Typical Characteristics (Cont.)



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
theta	0°	8°	0°	8°

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