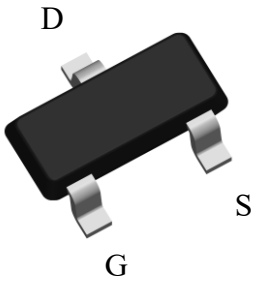
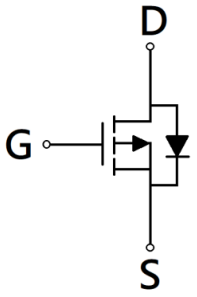
BV_{DSS}	-20V
I_D@V_{GS}=-4.5V, T_A=25°C	-5A
$R_{DS(ON)}$ typ. @V_{GS}=-4.5V, I_D=-4.5A	25mΩ
$R_{DS(ON)}$ typ. @V_{GS}=-2.5V, I_D=-3.4A	33mΩ
$R_{DS(ON)}$ typ. @V_{GS}=-1.8V, I_D=-3.4A	48mΩ



SOT-23

Features

- Low On Resistance
- Low Gate Charge
- Fast Switching Characteristic



G : Gate S : Source D : Drain

Absolute Maximum Ratings (T_A=25°C)

Parameter		Symbol	Limits	Unit
Drain-Source Voltage		V_{DS}	-20	V
Gate-Source Voltage		V_{GS}	±8	
Continuous Drain Current @ V_{GS}=-4.5V, T_A=25°C		I_D	-5	A
Continuous Drain Current @ V_{GS}=-4.5V, T_A=70°C			-4	
Pulsed Drain Current		I_{DM}	-20	
Continuous Body Diode Forward Current @ T_A=25°C		Is	-1.2	
Total Power Dissipation	T_A=25°C	P_D	1.4	W
	T_A=70°C		0.9	
Operating Junction and Storage Temperature Range		T_J, T_{stg}	-55~+150	°C

Thermal Data

Parameter	Symbol	Steady State	Unit
Thermal Resistance, Junction-to-ambient	$R_{\theta JA}$	90	°C/W

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

Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Static					
BV_{DSS}	-20	-	-	V	V_{GS}=0V, I_D=-250μA
$V_{GS(th)}$	-0.3	-	-1		V_{DS}=V_{GS}, I_D=-250μA
G_{FS}	-	12	-	S	V_{DS}=-10V, I_D=-5A
I_{GSS}	-	-	±100	nA	V_{GS}=±8V, V_{DS}=0V
I_{DSS}	-	-	-1	μA	V_{DS}=-16V, V_{GS}=0V
$R_{DS(ON)}$	-	25	35	mΩ	V_{GS}=-4.5V, I_D=-4.5A
	-	33	48		V_{GS}=-2.5V, I_D=-3.4A
	-	48	80		V_{GS}=-1.8V, I_D=-3.4A
Dynamic					
Ciss	-	1935	-	pF	V_{DS}=-10V, V_{GS}=0V, f=1MHz
Coss	-	160	-		
Crss	-	130	-		
Rg	-	21	-	Ω	f=1MHz
Qg	-	20	-	nC	V_{DS}=-10V, I_D=-5A, V_{GS}=-4.5V
Qgs	-	3	-		
Qgd	-	5	-		
$t_{d(ON)}$	-	15	-	ns	V_{DS}=-10V, I_D=-1A, V_{GS}=-4.5V, R_{GS}=10Ω
tr	-	25	-		
$t_{d(OFF)}$	-	180	-		
t_f	-	95	-		
Source-Drain Diode					
V_{SD}	-	-0.72	-1.2	V	I_S=-1A, V_{GS}=0V
trr	-	11	-	ns	I_F=-5A, dI_F/dt=100A/μs
Qrr	-	5	-	nC	

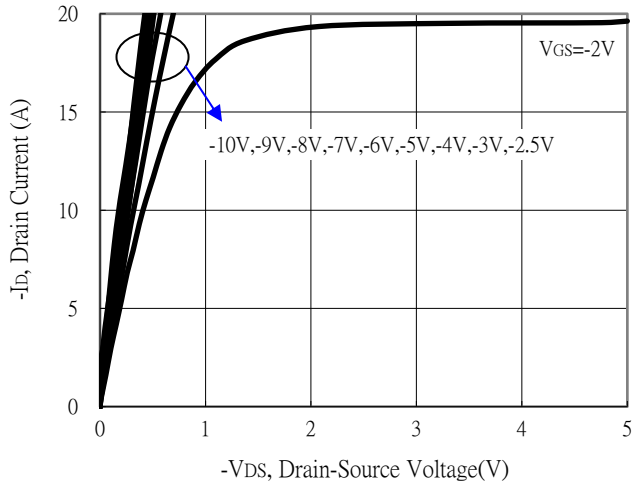
Note:

*1. Pulse Test : Pulse Width ≤300μs, Duty Cycle≤2%

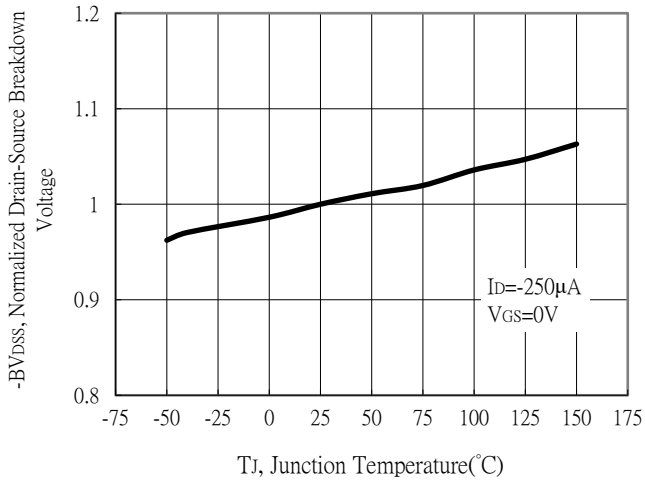
*2. Independent of operating temperature

Typical Characteristics

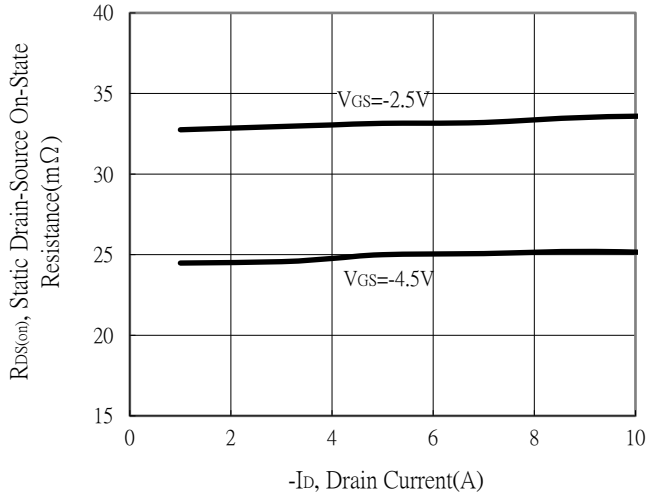
Typical Output Characteristics



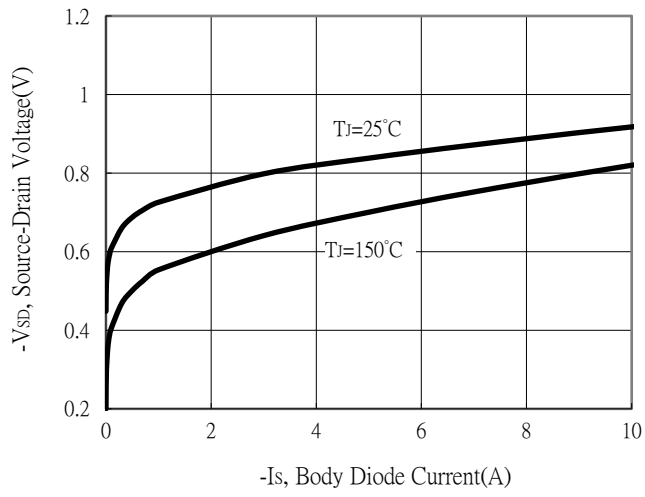
Breakdown Voltage vs Ambient Temperature



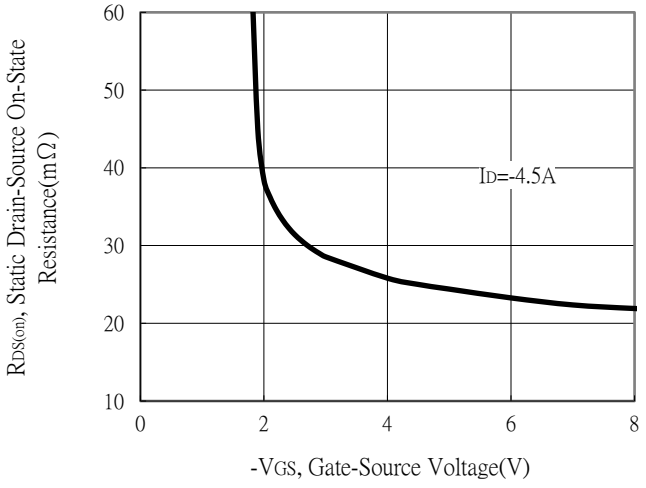
Static Drain-Source On-State resistance vs Drain Current



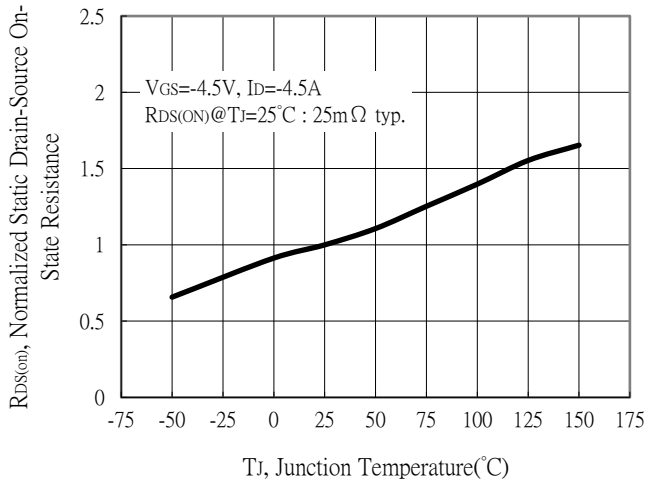
Body Diode Currentvs Source-Drain Voltage



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

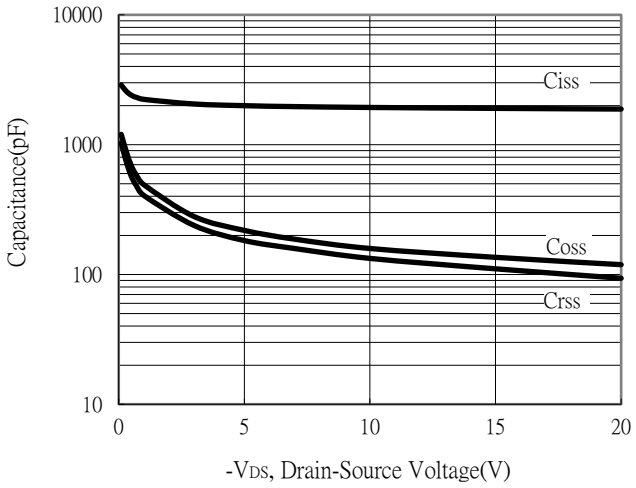


Drain-Source On-State Resistance vs Junction Temperature

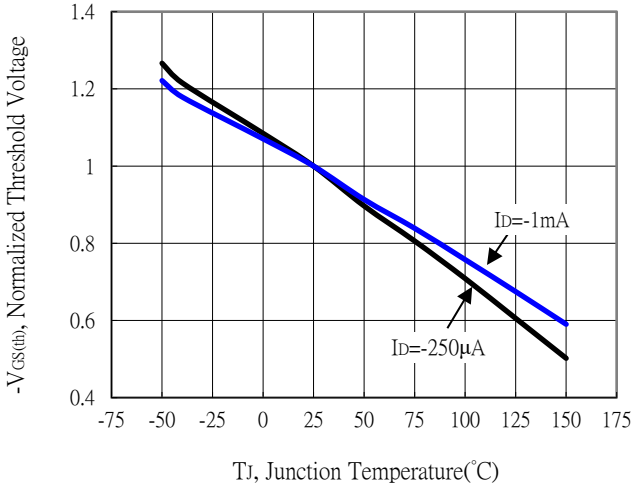


Typical Characteristics (Cont.)

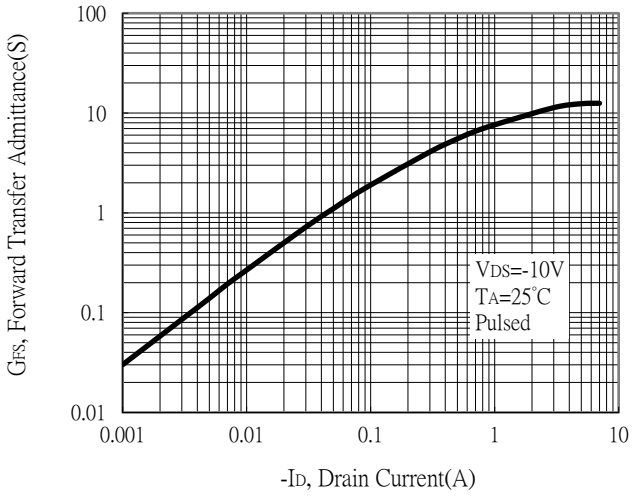
Capacitance vs Drain-to-Source Voltage



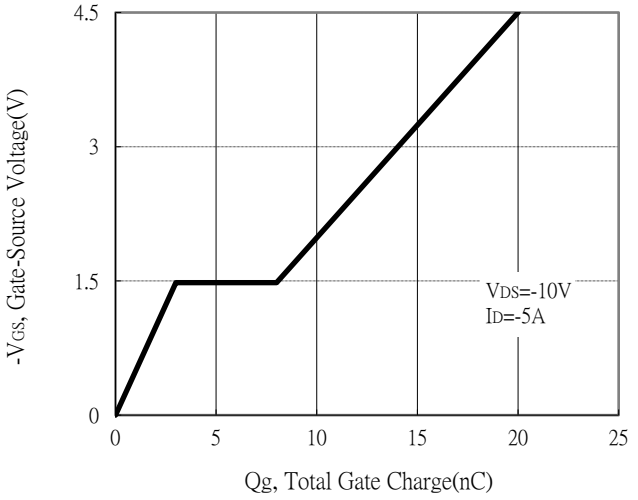
Threshold Voltage vs Junction Temperature



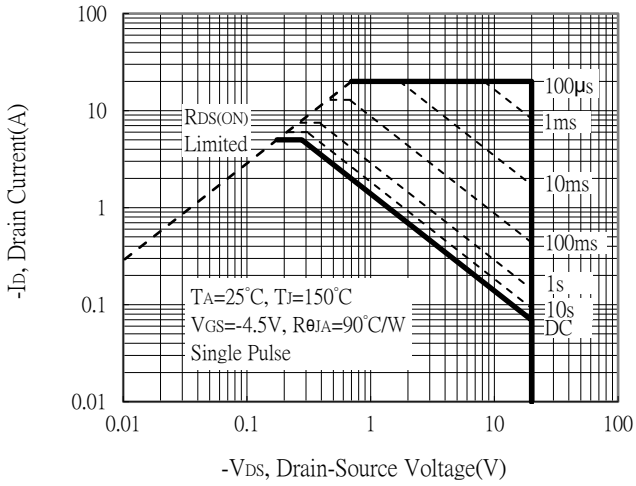
Forward Transfer Admittance vs Drain Current



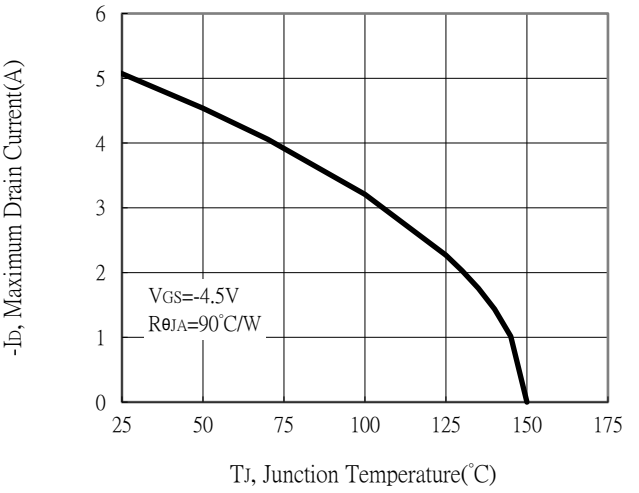
Gate Charge Characteristics



Maximum Safe Operating Area

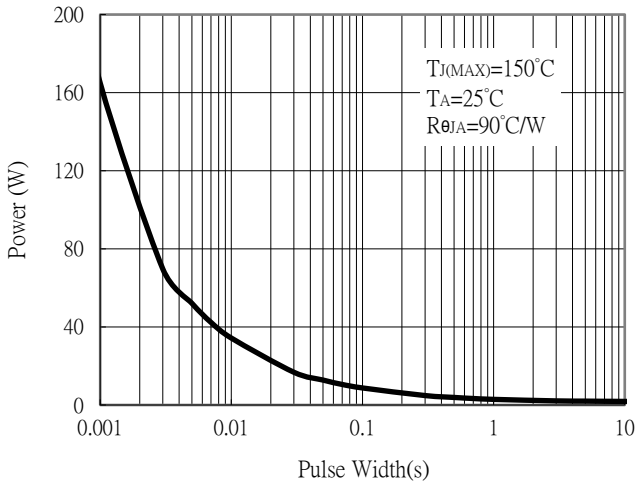


Maximum Drain Current vs Junction Temperature

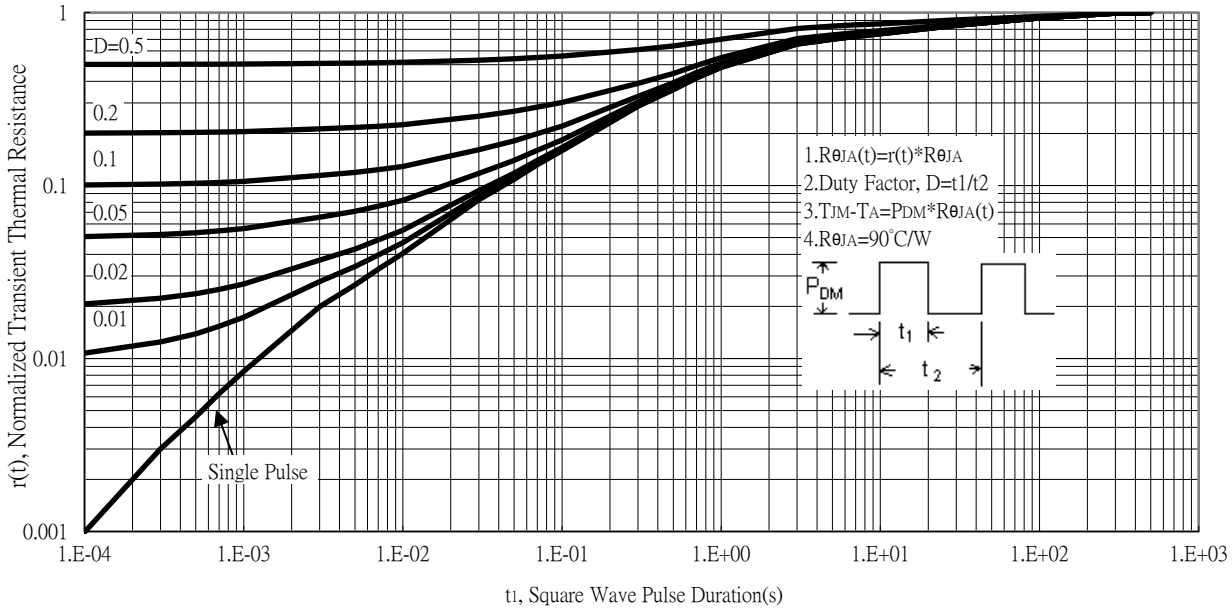


Typical Characteristics (Cont.)

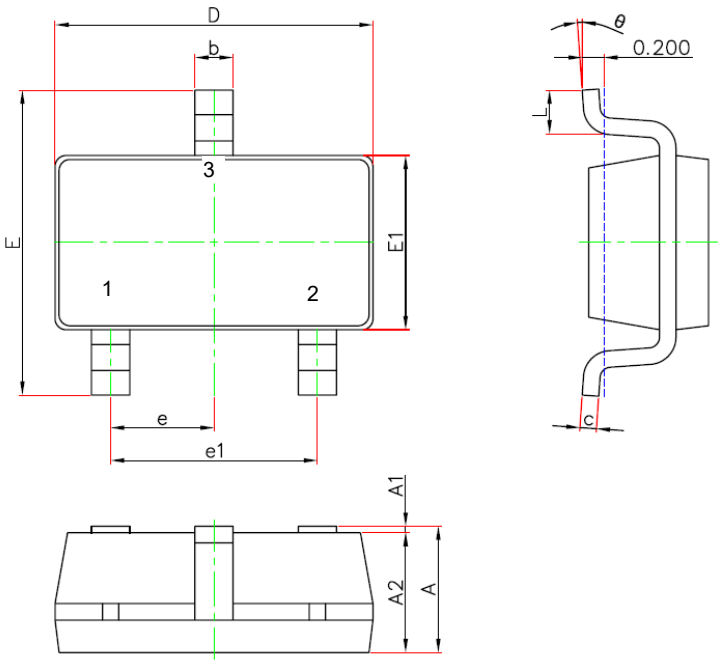
Single Pulse Power Rating, Junction to Ambient



Transient Thermal Response Curves



SOT-23 Dimension



DIM	Inches		Millimeters		DIM	Inches		Millimeters	
	Min.	Max.	Min.	Max.		Min.	Max.	Min.	Max.
A	0.041	0.049	1.05	1.25	E1	0.059	0.067	1.50	1.70
A1	0.000	0.004	0.00	0.10	E	0.104	0.116	2.65	2.95
A2	0.041	0.045	1.05	1.15	e	0.037 BSC		0.95 BSC	
b	0.012	0.020	0.30	0.50	e1	0.071	0.079	1.80	2.00
c	0.004	0.008	0.10	0.20	L	0.012	0.024	0.30	0.60
D	0.111	0.119	2.82	3.02	θ	0°	8°	0°	8°

Notes: 1.Controlling dimension: millimeters.