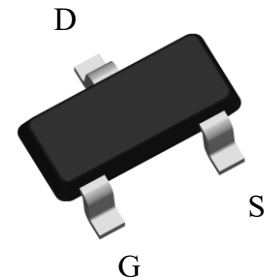
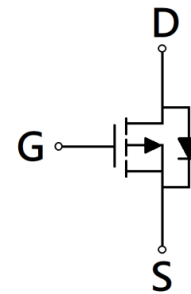


BV_{DSS}	-20V
$I_D @ V_{GS} = -4.5V, T_A = 25^\circ C$	-5A
$R_{DS(ON)}$ typ. @ $V_{GS} = -4.5V, I_D = -4.5A$	25m Ω
$R_{DS(ON)}$ typ. @ $V_{GS} = -2.5V, I_D = -3.4A$	33m Ω
$R_{DS(ON)}$ typ. @ $V_{GS} = -1.8V, I_D = -3.4A$	48m Ω



SOT-23



G : Gate S : Source D : Drain

Features

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

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

Parameter	Symbol	Limits	Unit
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 8	
Continuous Drain Current @ $V_{GS} = -4.5V, T_A = 25^\circ C$	I_D	-5	A
Continuous Drain Current @ $V_{GS} = -4.5V, T_A = 70^\circ C$		-4	
Pulsed Drain Current	I_{DM}	-20	
Continuous Body Diode Forward Current @ $T_A = 25^\circ C$	I_S	-1.2	W
Total Power Dissipation	P_D	1.4	
		0.9	
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-ambient	$R_{\theta JA}$	90	$^\circ C/W$

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					
C _{iss}	-	1935	-	pF	V _{DS} =-10V, V _{GS} =0V, f=1MHz
C _{oss}	-	160	-		
C _{rss}	-	130	-		
R _g	-	21	-	Ω	f=1MHz
Q _g	-	20	-	nC	V _{DS} =-10V, I _D =-5A, V _{GS} =-4.5V
Q _{gs}	-	3	-		
Q _{gd}	-	5	-		
t _{d(ON)}	-	15	-	ns	V _{DS} =-10V, I _D =-1A, V _{GS} =-4.5V, R _{GS} =10Ω
t _r	-	25	-		
t _{d(OFF)}	-	180	-		
t _f	-	95	-		
Source-Drain Diode					
V _{SD}	-	-0.72	-1.2	V	I _S =-1A, V _{GS} =0V
t _{rr}	-	11	-	ns	I _F =-5A, dI _F /dt=100A/μs
Q _{rr}	-	5	-	nC	

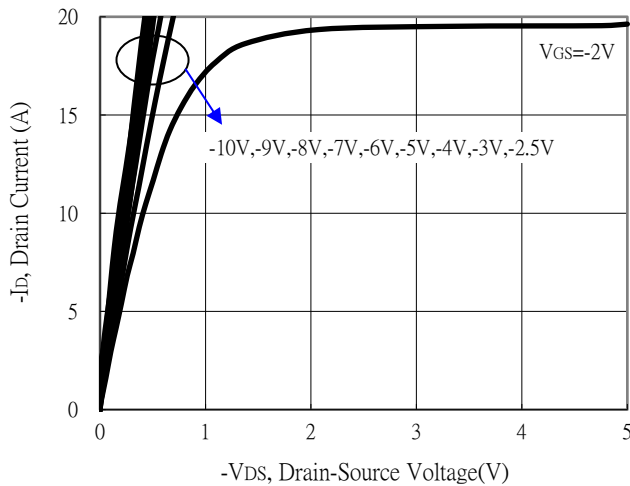
Note:

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

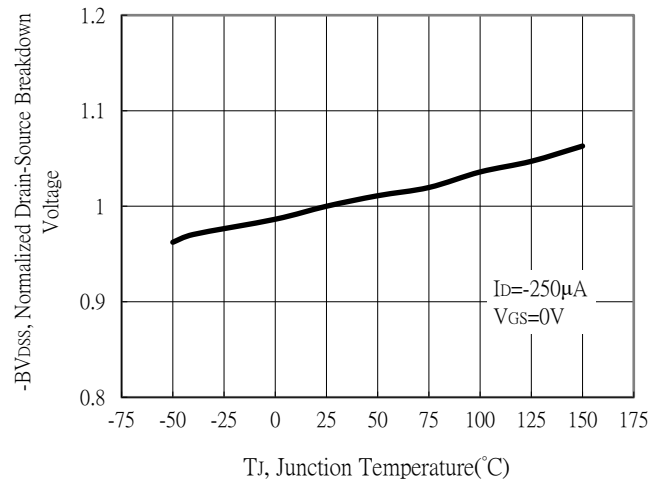
*2. Independent of operating temperature

Typical Characteristics

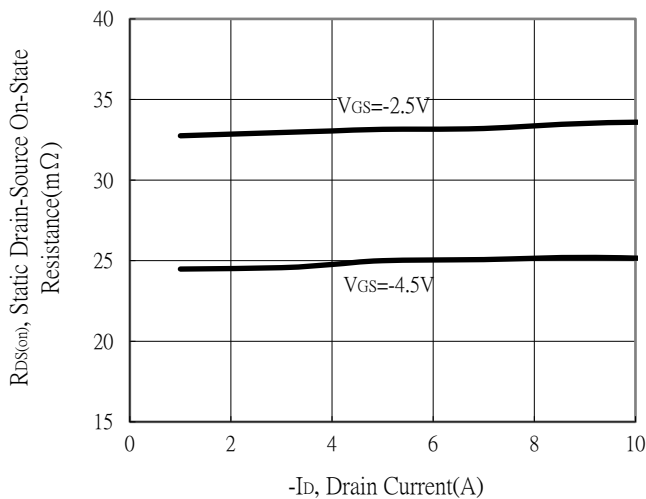
Typical Output Characteristics



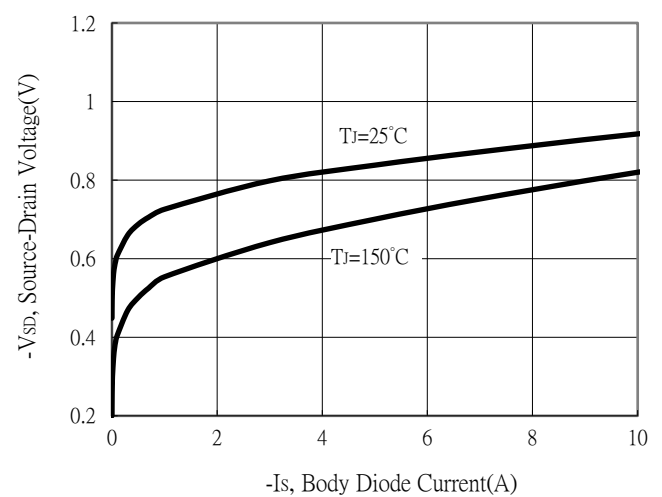
Breakdown Voltage vs Ambient Temperature



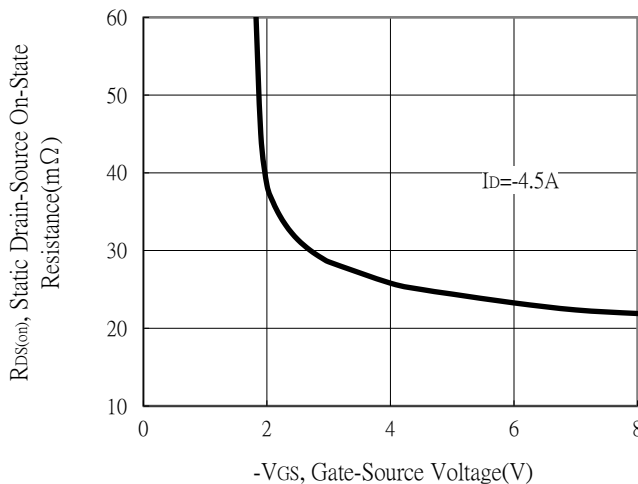
Static Drain-Source On-State resistance vs Drain Current



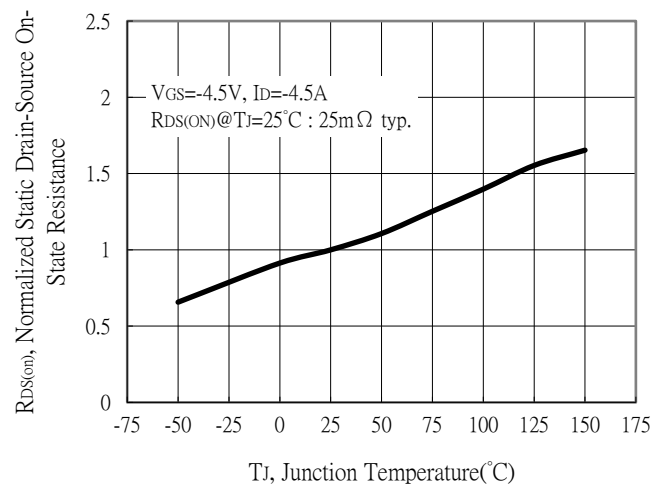
Body Diode Current vs Source-Drain Voltage



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

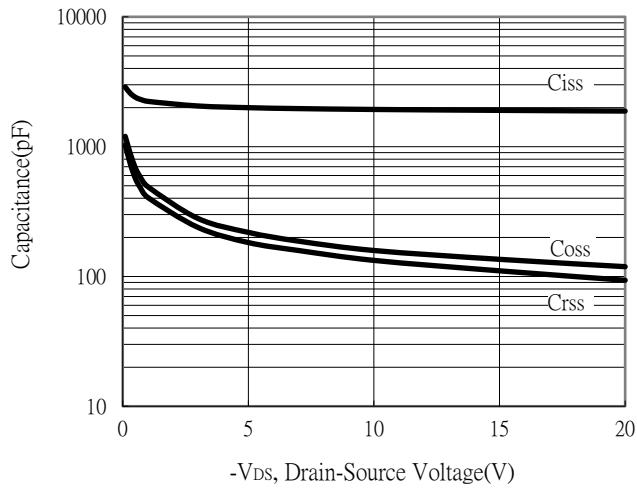


Drain-Source On-State Resistance vs Junction Temperature

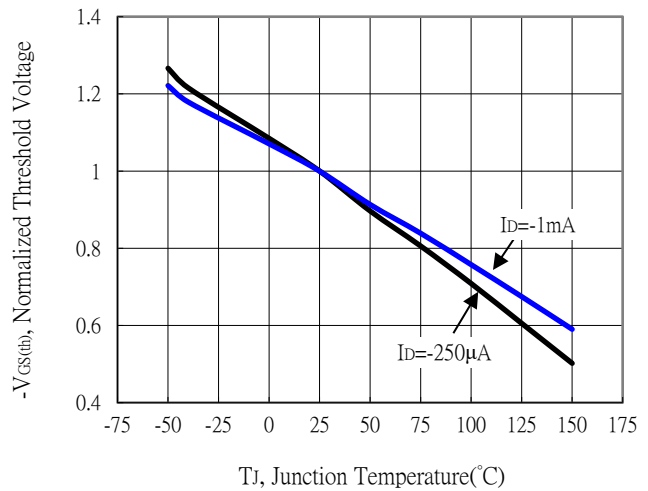


Typical Characteristics (Cont.)

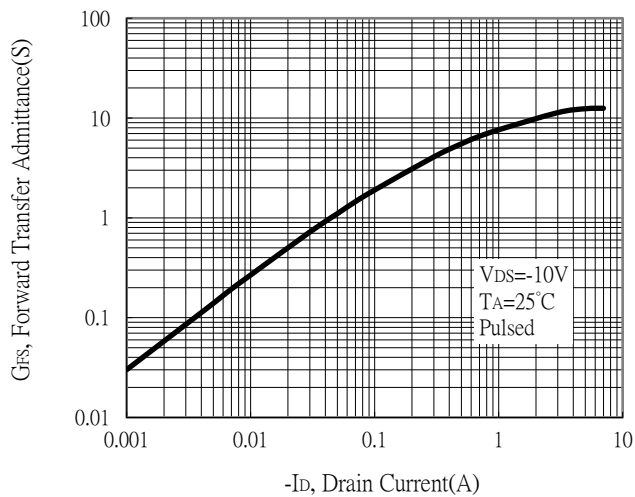
Capacitance vs Drain-to-Source Voltage



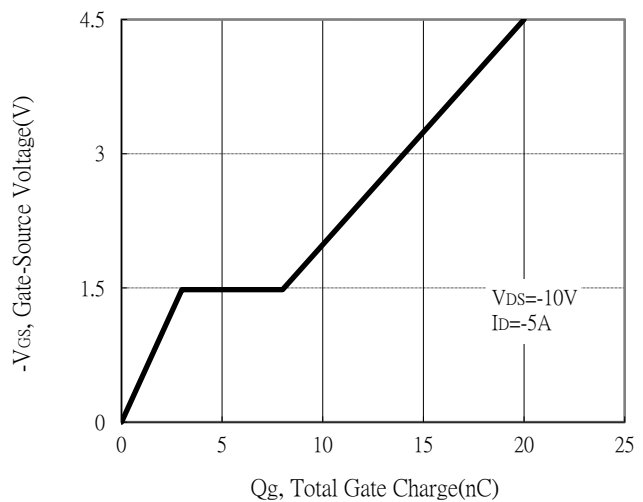
Threshold Voltage vs Junction Temperature



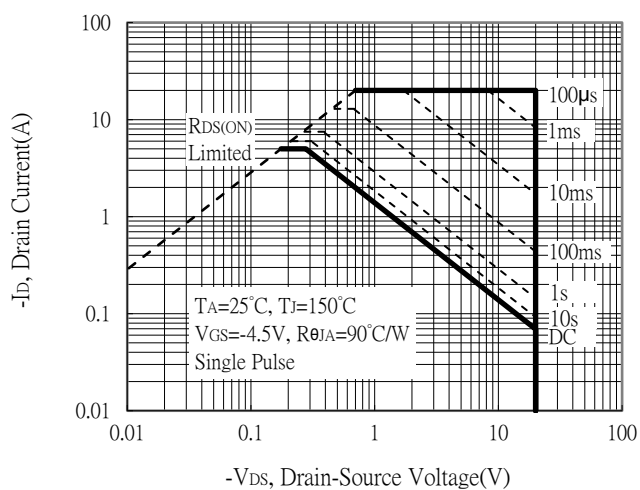
Forward Transfer Admittance vs Drain Current



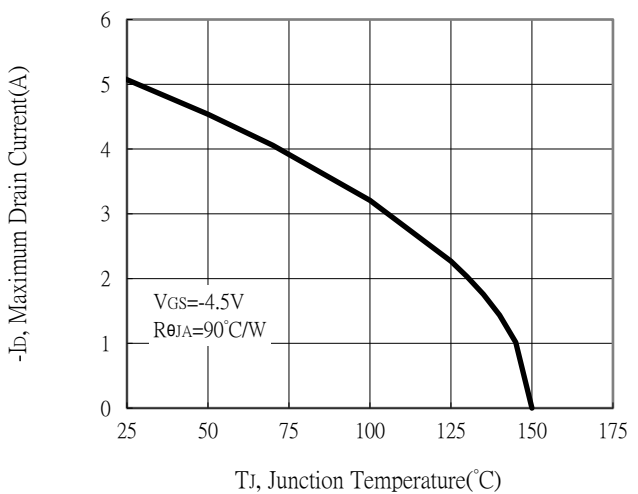
Gate Charge Characteristics



Maximum Safe Operating Area

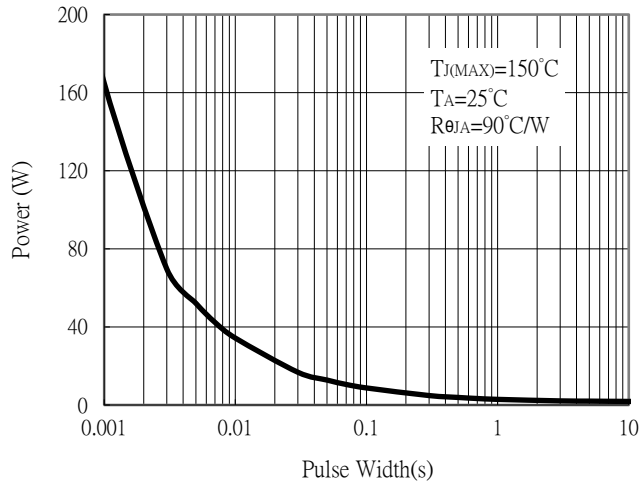


Maximum Drain Current vs Junction Temperature

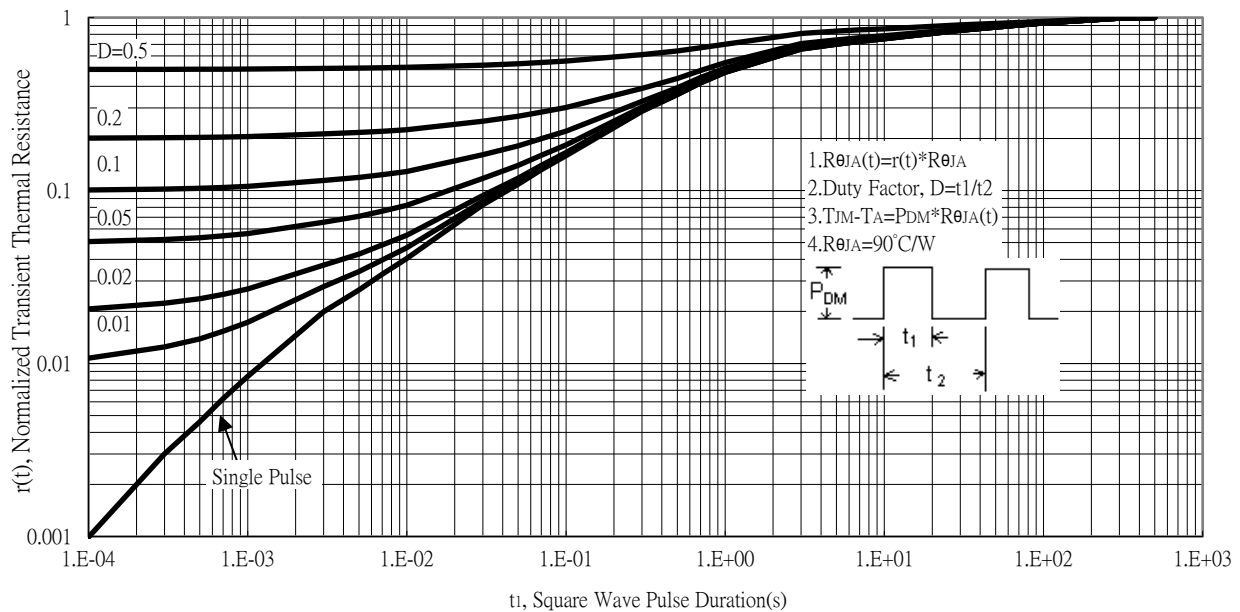


Typical Characteristics (Cont.)

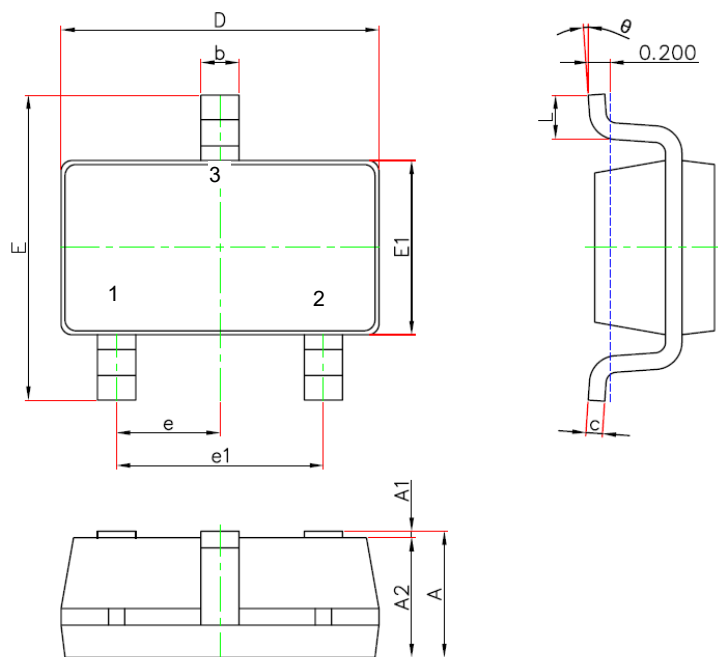
Single Pulse Power Rating, Junction to Ambient



Transient Thermal Response Curves



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	theta	0°	8°	0°	8°

Notes: 1.Controlling dimension: millimeters.

CCS Semiconductor and  are trademarks of Semiconductor Components Industries, CCS Semiconductor reserves the right to make changes without further notice to any products herein. CCS Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does CCS Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation special, consequential or incidental damages. CCS Semiconductor does not convey any license under its patent rights nor the rights of others.