

SWITCHING REGULATOR APPLICATIONS

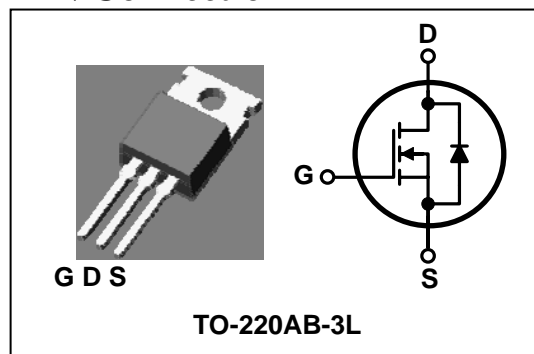
Features

- High Voltage: $BV_{DSS}=600V$ (Min.)
- Low C_{rSS} : $C_{rSS}=18pF$ (Typ.)
- Low gate charge : $Qg=35nc$ (Typ.)
- Low $R_{DS(on)}$: $R_{DS(on)}=0.75\Omega$ (Max.)

Ordering Information

Type No.	Marking	Package Code
SMK1060PS	SMK1060	TO-220AB-3L

PIN Connection



Absolute maximum ratings ($T_C=25^\circ C$ unless otherwise noted)

Characteristic	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	600	V
Gate-source voltage	V_{GSS}	± 30	V
Drain current (DC)*	I_D	($T_C=25^\circ C$)	10
		($T_C=100^\circ C$)	6.32
Drain current (Pulsed)*	I_{DM}	40	A
Drain power dissipation	P_D	120	W
Avalanche current (Single) ②	I_{AS}	10	A
Single pulsed avalanche energy ②	E_{AS}	490	mJ
Avalanche current (Repetitive) ①	I_{AR}	10	A
Repetitive avalanche energy ①	E_{AR}	11.6	mJ
Junction temperature	T_J	150	$^\circ C$
Storage temperature range	T_{stg}	-55~150	

* Limited by maximum junction temperature

Characteristic	Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	-	1.04	$^\circ C/W$
	Junction-ambient	-	62.5	

Electrical Characteristics (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Drain-source breakdown voltage	BV _{DSS}	I _D =250μA, V _{GS} =0	600	-	-	V	
Gate threshold voltage	V _{GS(th)}	I _D =250μA, V _{DS} =V _{GS}	2.0	-	4.0	V	
Drain-source cut-off current	I _{DSS}	V _{DS} =600V, V _{GS} =0V	-	-	1	μA	
Gate leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±30V	-	-	±100	nA	
Drain-source on-resistance ④	R _{DS(on)}	V _{GS} =10V, I _D =5.0A	-	0.60	0.75	Ω	
Forward transfer conductance ④	g _{fs}	V _{DS} =10V, I _D =5.0A	-	8.0	-	S	
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V f=1MHz	-	2000	2350	pF	
Output capacitance	C _{oss}		-	160	215		
Reverse transfer capacitance	C _{rss}		-	18	-		
Turn-on delay time	t _{d(on)}	V _{DD} =300V, I _D =10A R _G =25Ω	-	23	-	ns	
Rise time	t _r		-	69	-		
Turn-off delay time	t _{d(off)}		③④	-	144		-
Fall time	t _f		-	77	-		
Total gate charge	Q _g	V _{DS} =480V, V _{GS} =10V I _D =10A	-	35	57	nC	
Gate-source charge	Q _{gs}		③④	-	9.0		-
Gate-drain charge	Q _{gd}		-	-	10		-

Source-Drain Diode Ratings and Characteristics (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Source current (DC)	I _S	Integral reverse diode in the MOSFET	-	-	10	A
Source current (Pulsed) ①	I _{SM}		-	-	40	
Forward voltage ④	V _{SD}	V _{GS} =0V, I _S =10A	-	-	1.4	V
Reverse recovery time	t _{rr}	I _S =10A, V _{GS} =0, di _s /dt=100A/ us	-	470	-	ns
Reverse recovery charge	Q _{rr}		-	6	-	uC

Note ;

- ① Repetitive Rating : Pulse Width Limited by Maximum Junction Temperature
- ② L=10mH, I_{AS}=9.5A, V_{DD}=50V, R_G=25Ω , Starting T_J = 25°C
- ③ Pulse Test : Pulse Width < 300us, Duty cycle ≤ 2%
- ④ Essentially independent of operating temperature

Electrical Characteristic Curves

Fig. 1 $I_D - V_{DS}$

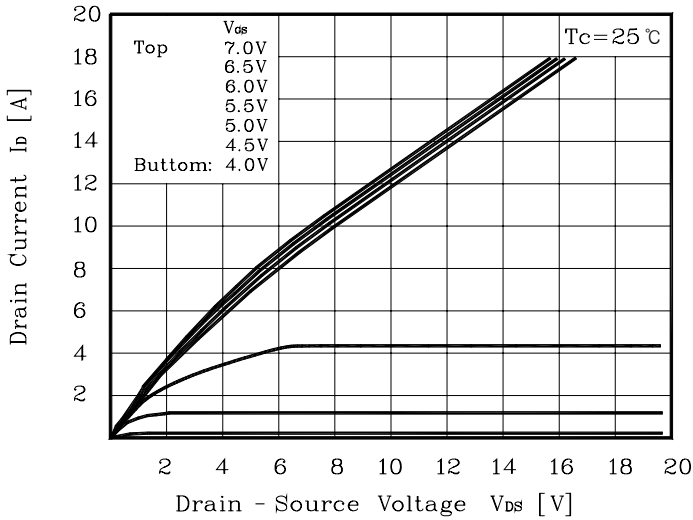


Fig. 2 $I_D - V_{GS}$

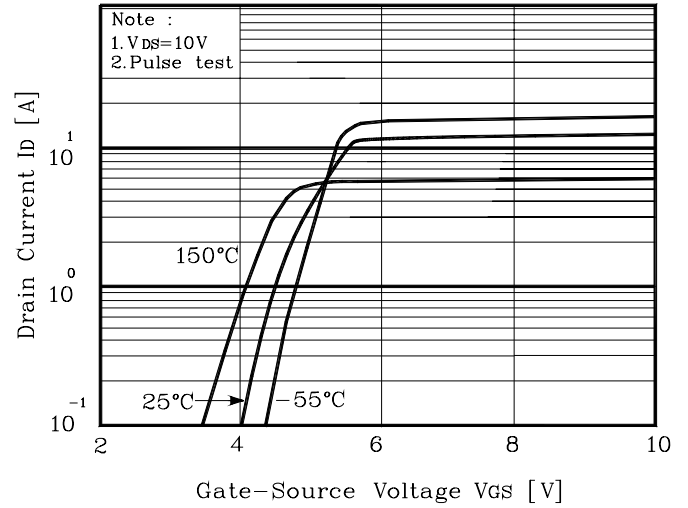


Fig. 3 $R_{DS(on)} - I_D$

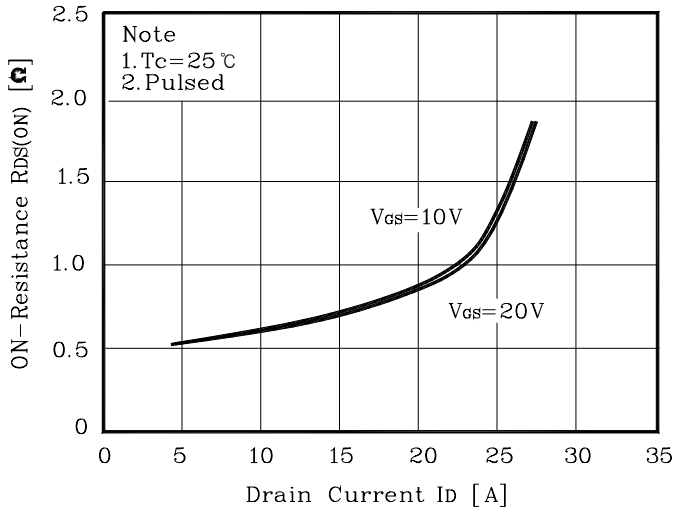


Fig. 4 $I_S - V_{SD}$

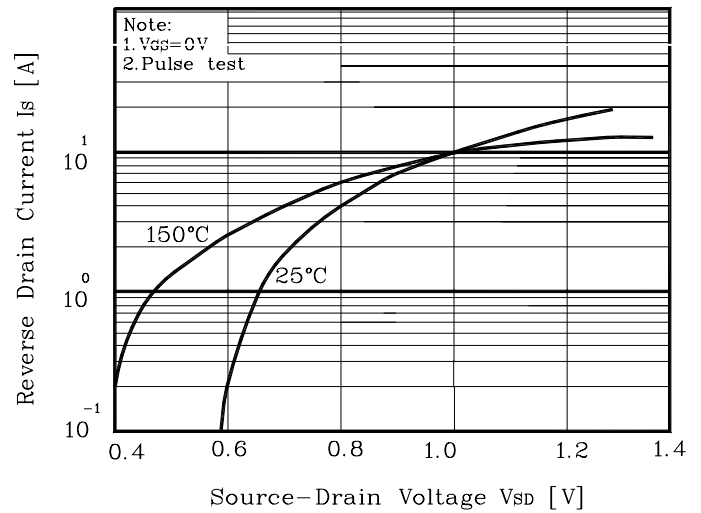


Fig. 5 Capacitance - V_{DS}

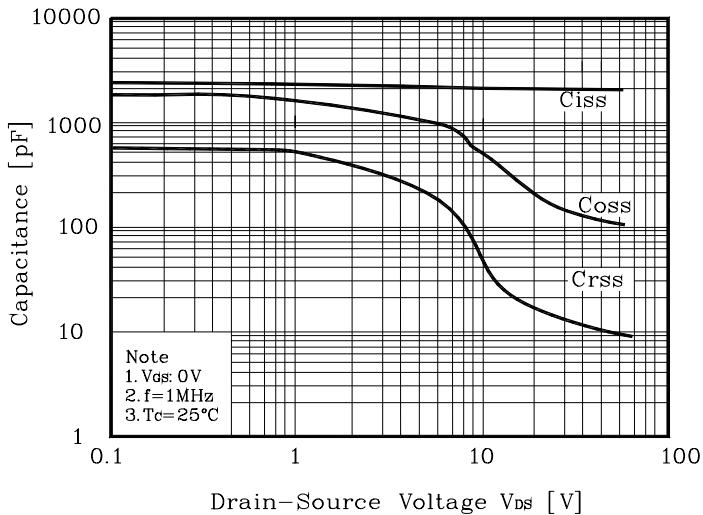
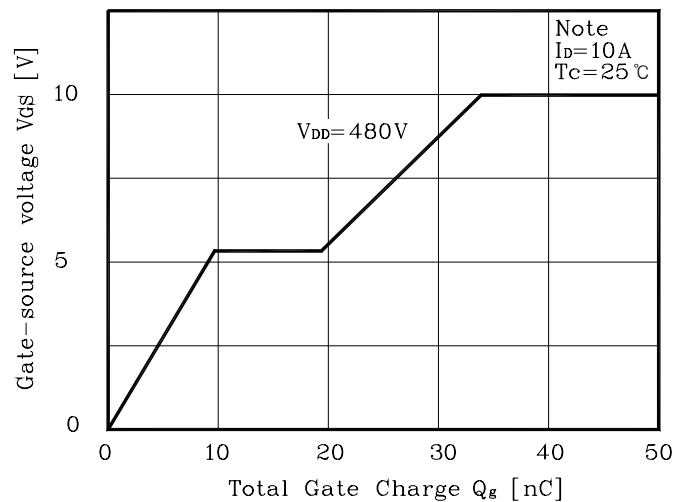


Fig. 6 $V_{GS} - Q_G$



Electrical Characteristic Curves

Fig. 7 $V_{DSS} - T_J$

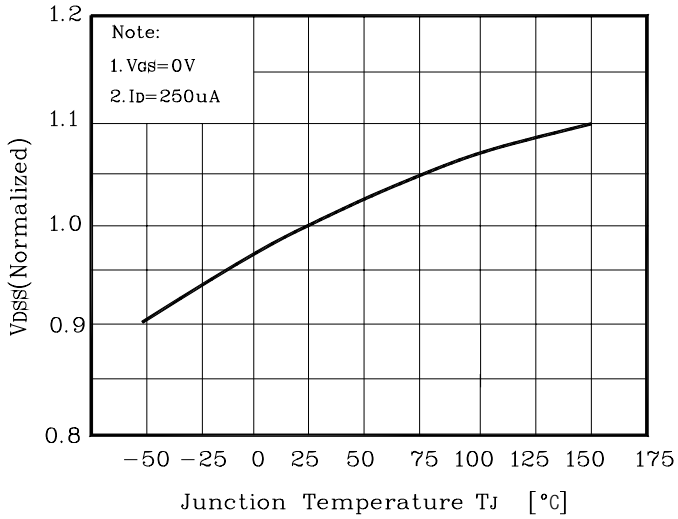


Fig. 8 $R_{DS(on)} - T_J$

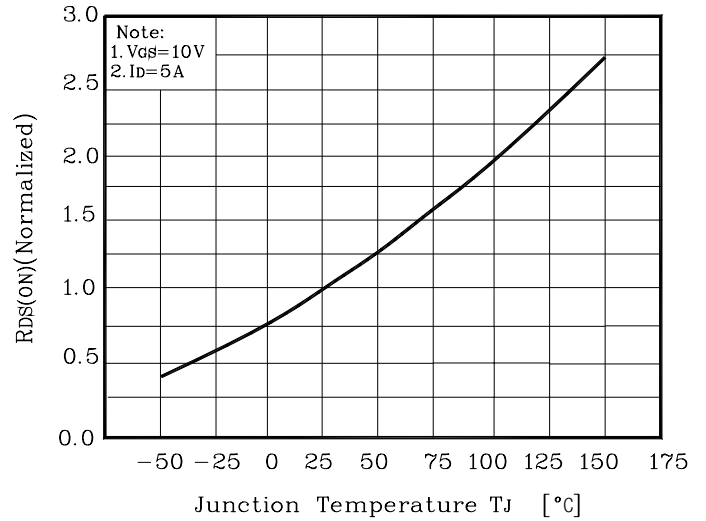


Fig. 9 $I_D - T_C$

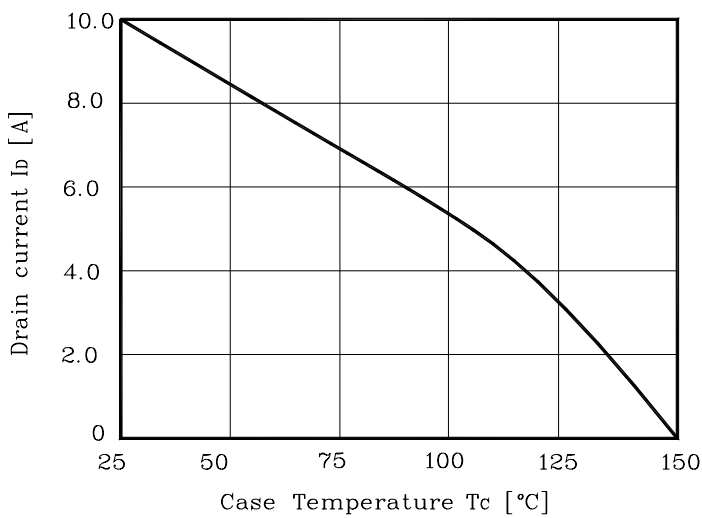


Fig. 10 Safe Operating Area

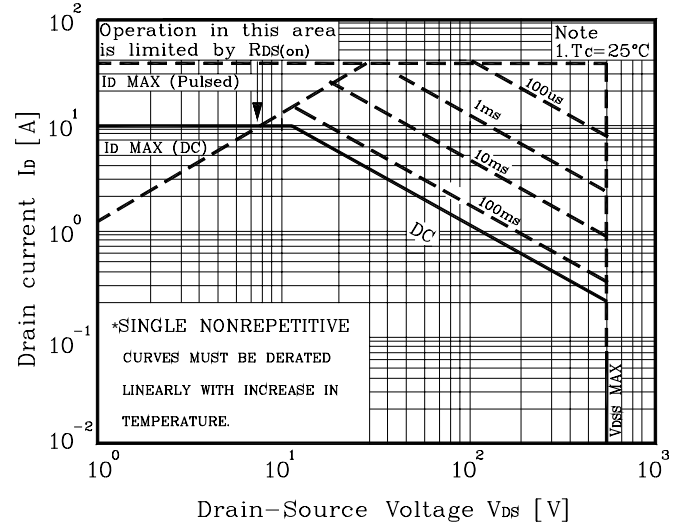


Fig. 10 Gate Charge Test Circuit & Waveform

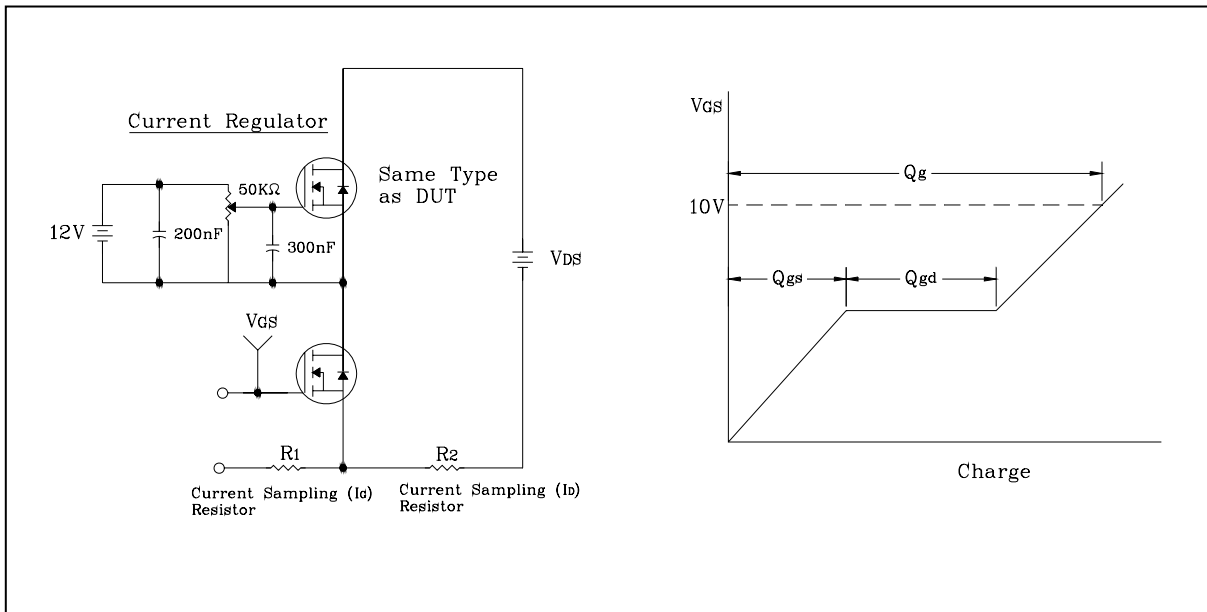


Fig. 11 Resistive Switching Test Circuit & Waveform

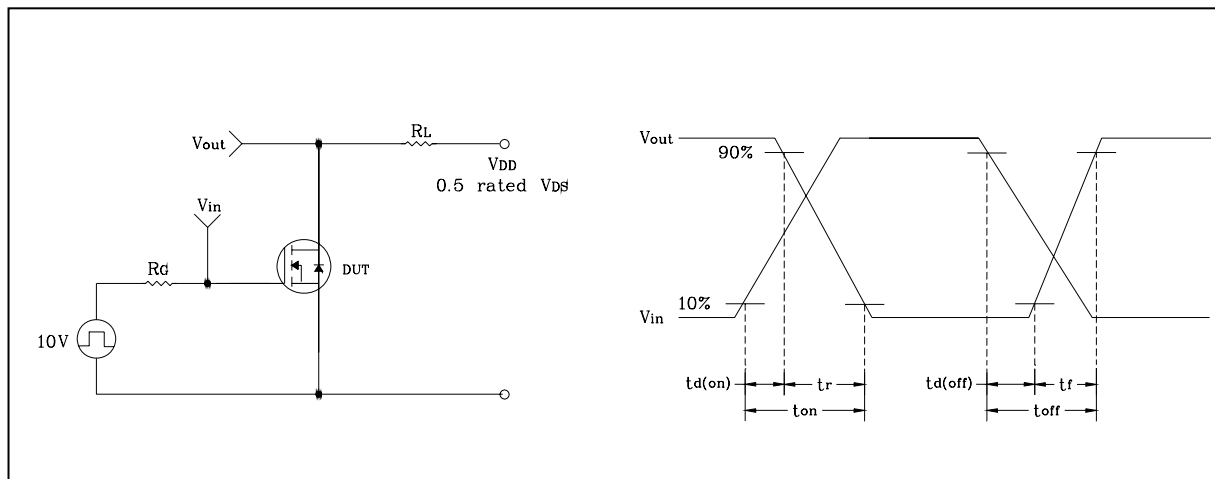


Fig. 12 E_{AS} Test Circuit & Waveform

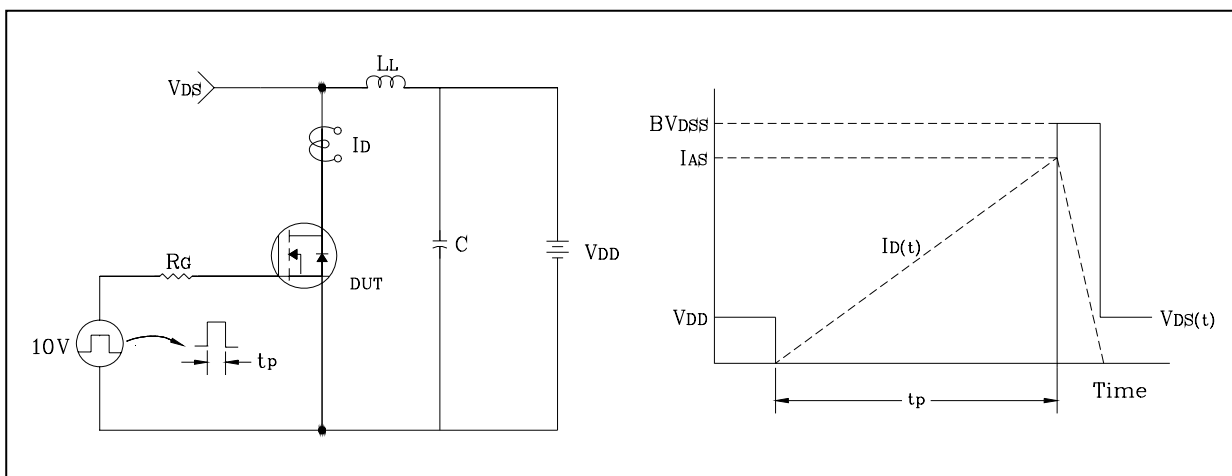
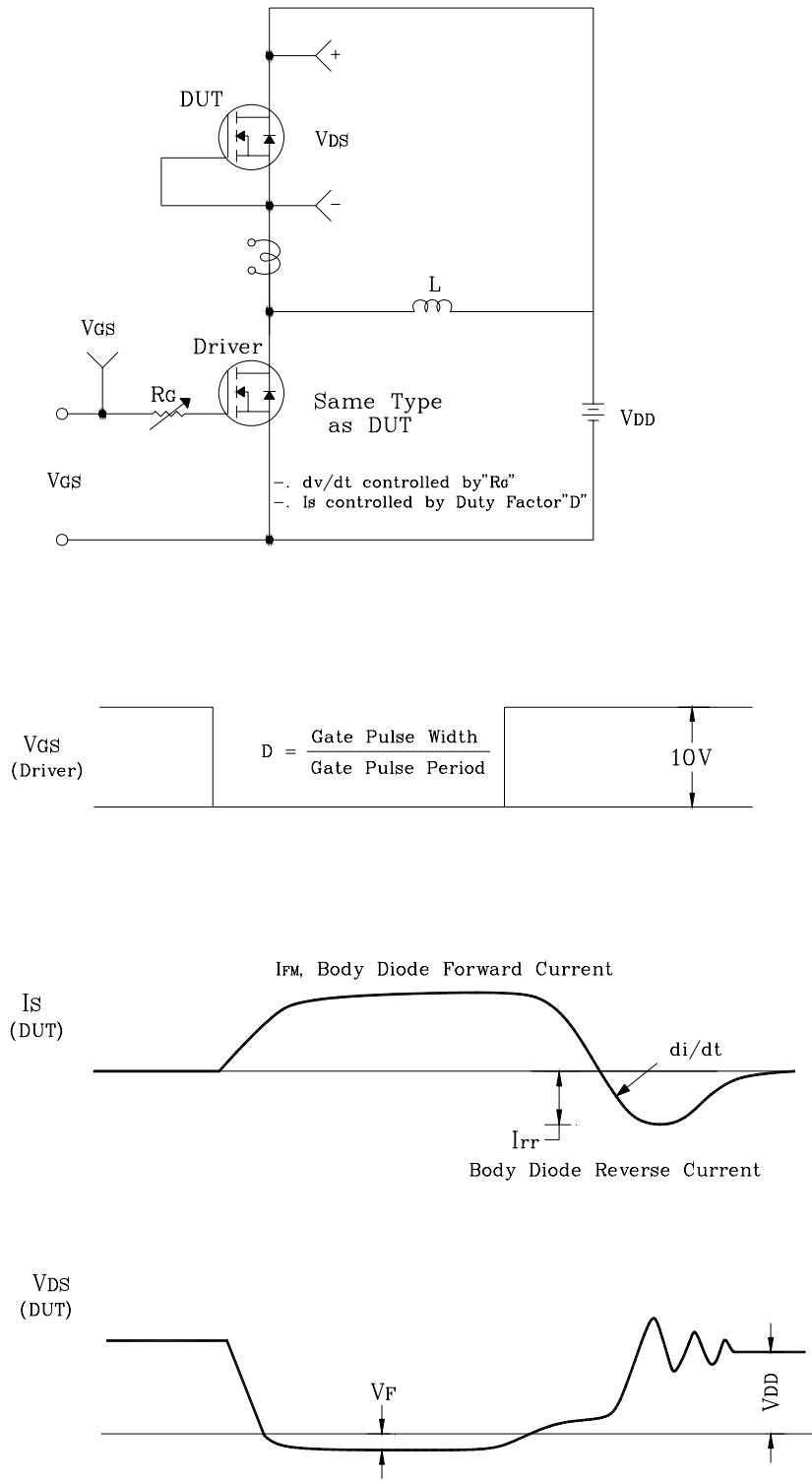
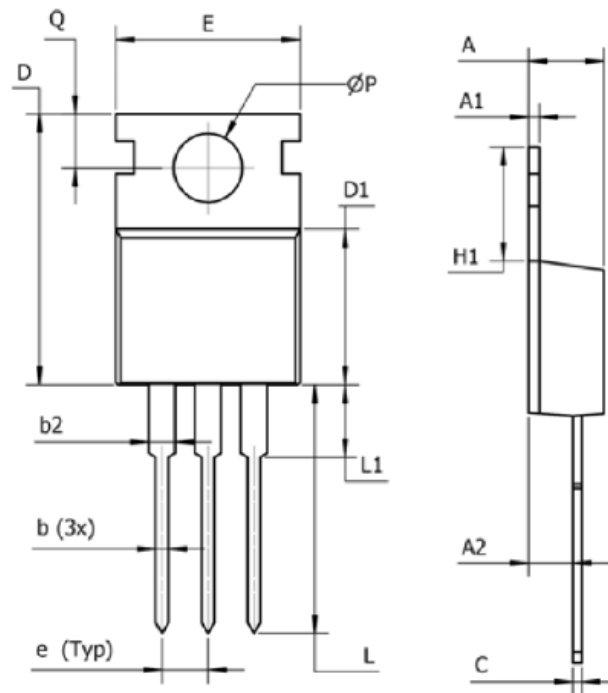


Fig. 13 Diode Reverse Recovery Time Test Circuit & Waveform



Outline Dimension



DIM	MM	INCHES
D	14.22-16.51	0.560-0.650
$\varnothing P$	$\varnothing 3.53-4.09$	$\varnothing 0.139-0.161$
H1	5.84-6.86	0.230-0.270
b	0.38-1.02	0.015-0.040
b2	1.14-1.78	0.045-0.070
D1	8.38-9.02	0.330-0.355
e	2.54	0.100
E	9.65-10.67	0.380-0.420
L1	6.35(MAX)	0.250(MAX)
A	3.56-4.83	0.140-0.190
A1	0.51-0.71	0.020-0.028
L	12.70-14.73	0.500-0.580
A2	2.03-2.92	0.080-0.115
Q	2.54-3.43	0.100-0.135
C	0.36-0.61	0.014-0.024

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SWITCHING REGULATOR APPLICATIONS

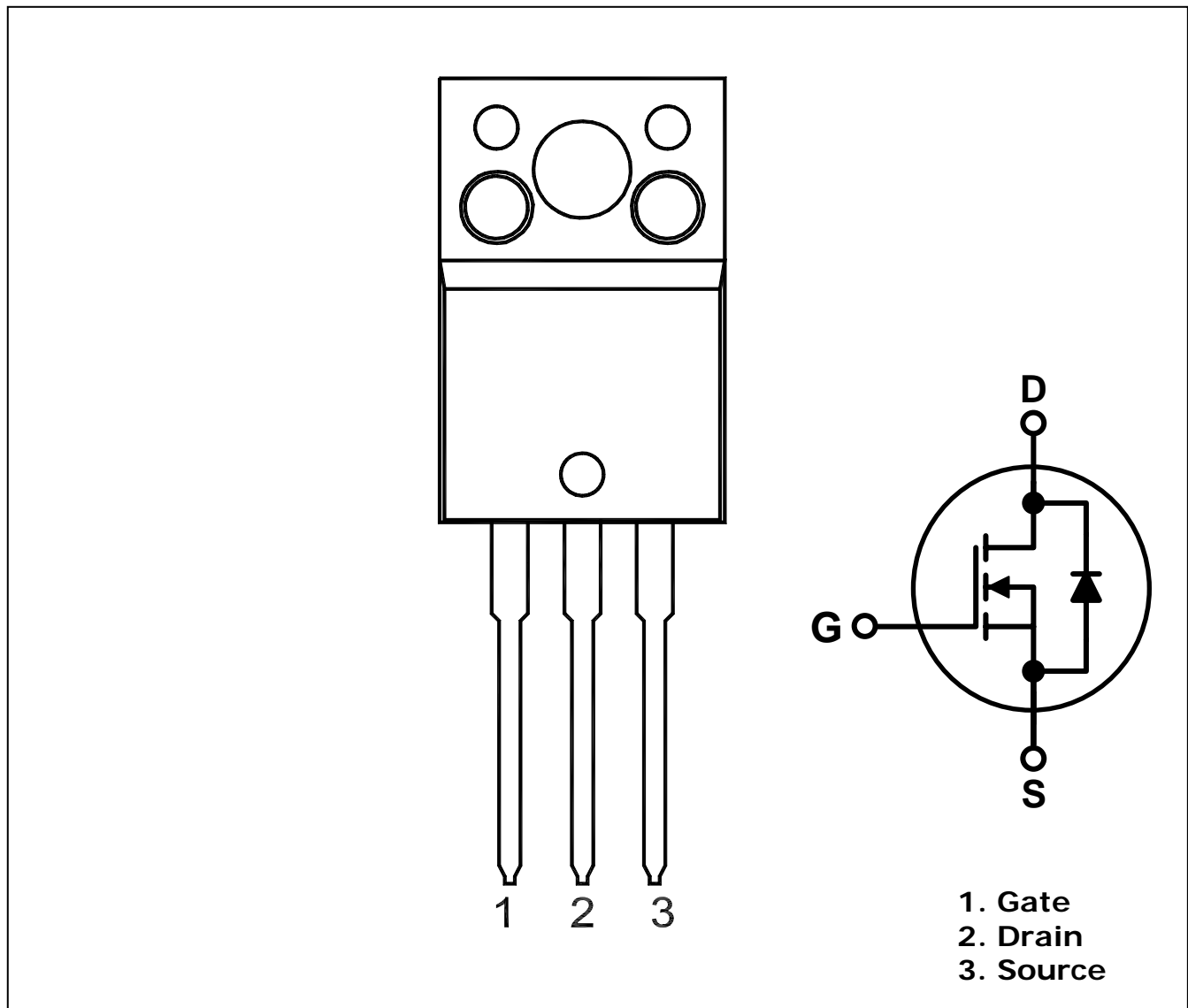
Features

- High Voltage: $BV_{DSS}=700V(\text{Min.})$
- Low C_{rSS} : $C_{rSS}=13.7pF(\text{Typ.})$
- Low gate charge : $Qg=32nc(\text{Typ.})$
- Low $R_{DS(on)}$: $R_{DS(on)}=0.9\Omega(\text{Max.})$

Ordering Information

Type NO.	Marking	Package Code
SMK0870F	SMK0870	TO-220F-3L

PIN Connections



Absolute maximum ratings

(Tc=25°C)

Characteristic	Symbol	Rating	Unit	
Drain-source voltage	V_{DSS}	700	V	
Gate-source voltage	V_{GSS}	±30	V	
Drain current (DC)*	I_D	(Tc=25°C)	8	A
		(Tc=100°C)	4.8	A
Drain current (Pulsed)*	I_{DM}	32	A	
Drain power dissipation	P_D	40	W	
Avalanche current (Single) ②	I_{AS}	8	A	
Single pulsed avalanche energy ②	E_{AS}	266	mJ	
Avalanche current (Repetitive) ①	I_{AR}	8	A	
Repetitive avalanche energy ①	E_{AR}	11.6	mJ	
Junction temperature	T_J	150	°C	
Storage temperature range	T_{stg}	-55~150		

* Limited by maximum junction temperature

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	3.1	°C/W
	Junction-ambient	$R_{th(J-a)}$	-	62.5	

Electrical Characteristics

(Tc=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Drain-source breakdown voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0$	700	-	-	V	
Gate threshold voltage	$V_{GS(th)}$	$I_D=250\mu A, V_{DS}=V_{GS}$	2.0	-	4.0	V	
Drain-source cut-off current	I_{DSS}	$V_{DS}=700V, V_{GS}=0V$	-	-	1	μA	
Gate leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA	
Drain-source on-resistance ④	$R_{DS(ON)}$	$V_{GS}=10V, I_D=4.0A$	-	0.77	0.90	Ω	
Forward transfer conductance ④	g_{fs}	$V_{DS}=10V, I_D=4.0A$	-	11	-	S	
Input capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V$ $f=1MHz$	-	2006	2507	pF	
Output capacitance	C_{oss}		-	148	185		
Reverse transfer capacitance	C_{rss}		-	13.7	17.1		
Turn-on delay time	$t_{d(on)}$	$V_{DD}=300V, I_D=10A$ $R_G=25\Omega$	-	23	-	ns	
Rise time	t_r		-	69	-		
Turn-off delay time	$t_{d(off)}$		③④	-	144		-
Fall time	t_f		-	77	-		
Total gate charge	Q_g	$V_{DS}=560V, V_{GS}=10V$ $I_D=8A$	-	32	40	nC	
Gate-source charge	Q_{gs}		-	9	-		
Gate-drain charge	Q_{gd}		③④	-	8		-

Source-Drain Diode Ratings and Characteristics

(Tc=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Source current (DC)	I_S	Integral reverse diode in the MOSFET	-	-	8	A
Source current (Pulsed) ①	I_{SM}		-	-	32	
Forward voltage ④	V_{SD}	$V_{GS}=0V, I_S=8A$	-	-	1.4	V
Reverse recovery time	t_{rr}	$I_S=8A, V_{GS}=0,$ $di_S/dt=100A/\mu s$	-	420	-	ns
Reverse recovery charge	Q_{rr}		-	4.2	-	μC

Note ;

- ① Repetitive Rating : Pulse Width Limited by Maximum Junction Temperature
- ② $L=7.74mH, I_{AS}=8A, V_{DD}=50V, R_G=25\Omega$, Starting $T_J = 25^\circ C$
- ③ Pulse Test : Pulse Width < 300us, Duty cycle $\leq 2\%$
- ④ Essentially independent of operating temperature

Electrical Characteristic Curves

Fig. 1 $I_D - V_{DS}$

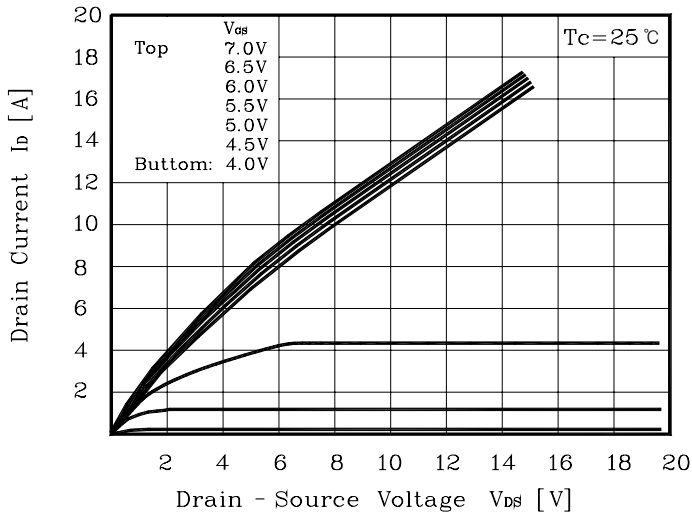


Fig. 2 $I_D - V_{GS}$

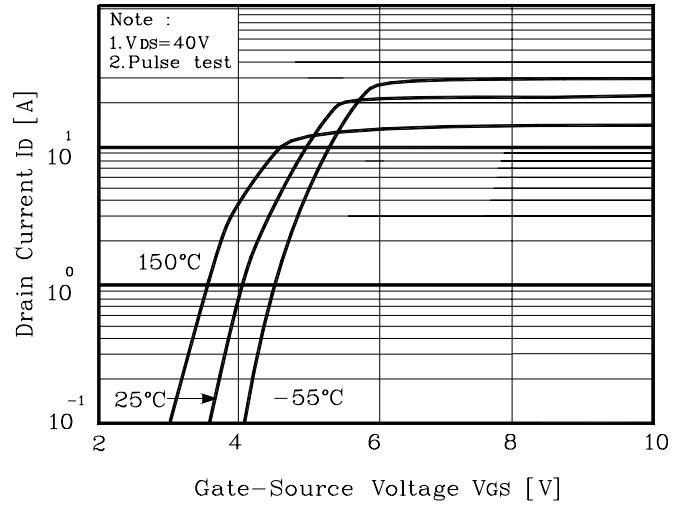


Fig. 3 $R_{DS(on)} - I_D$

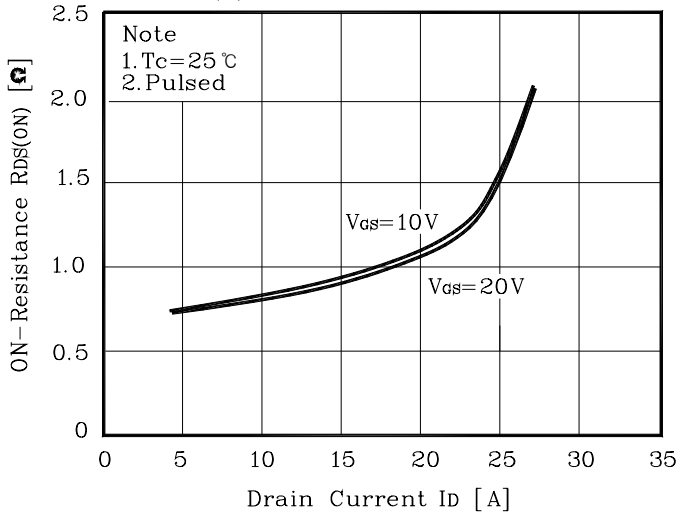


Fig. 4 $I_S - V_{SD}$

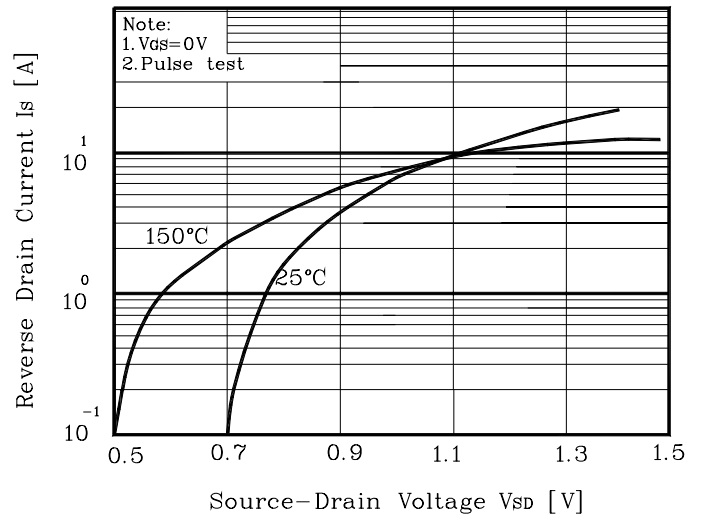


Fig. 5 Capacitance - V_{DS}

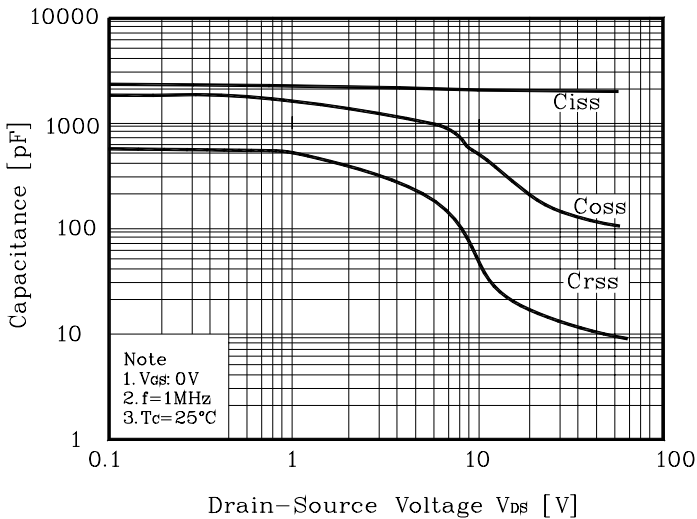
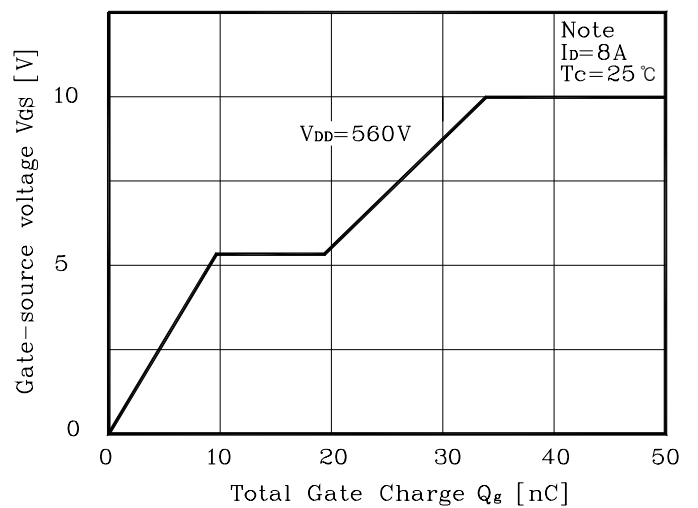


Fig. 6 $V_{GS} - Q_G$



Electrical Characteristic Curves

Fig. 7 $V_{DSS} - T_J$

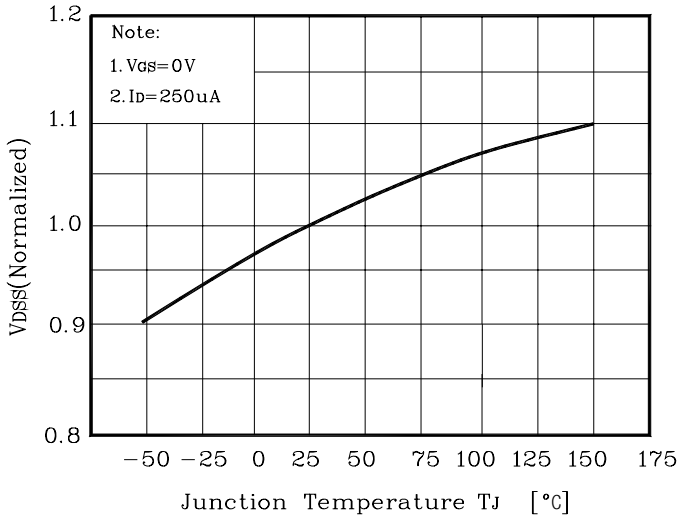


Fig.8 $R_{DS(on)} - T_J$

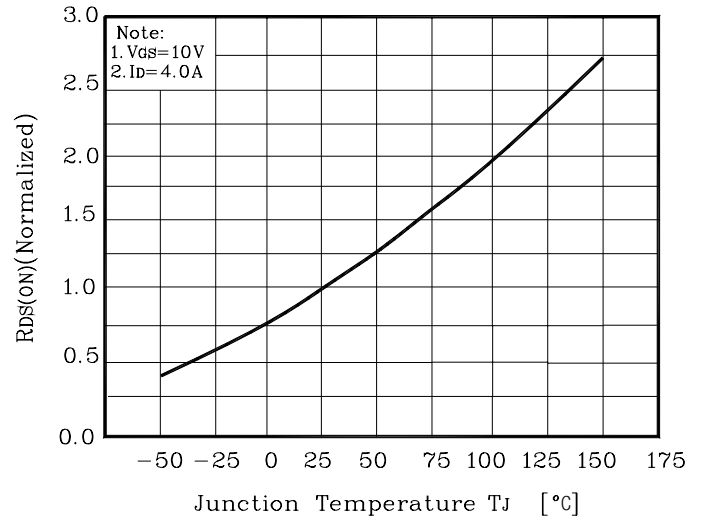


Fig. 9 $I_D - T_C$

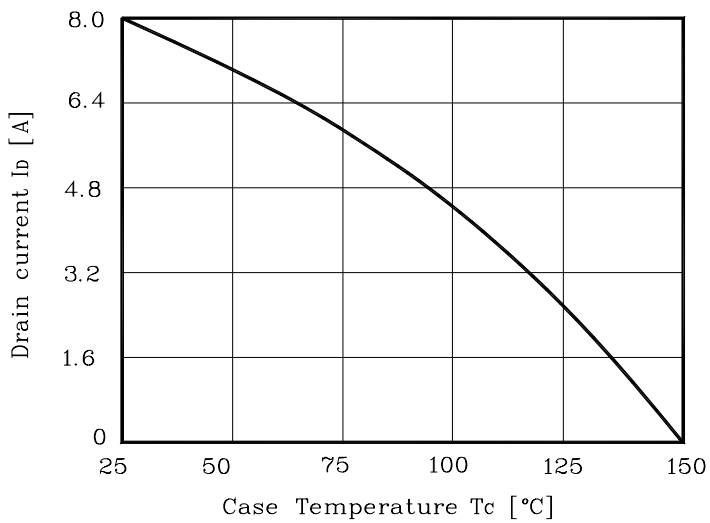


Fig. 10 Safe Operating Area

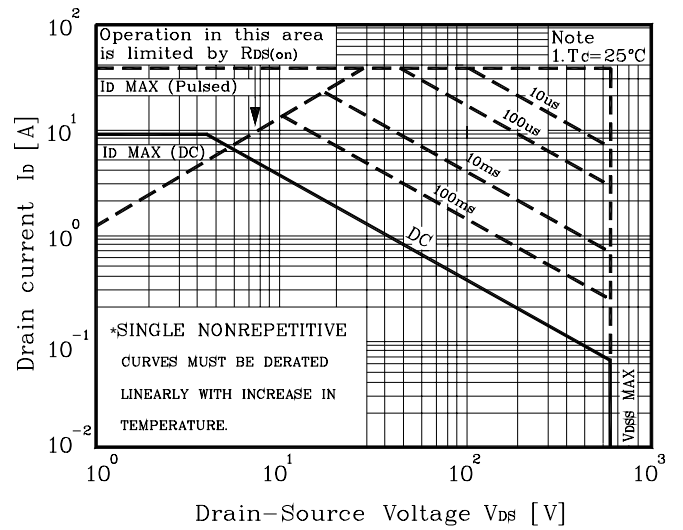


Fig. 10 Gate Charge Test Circuit & Waveform

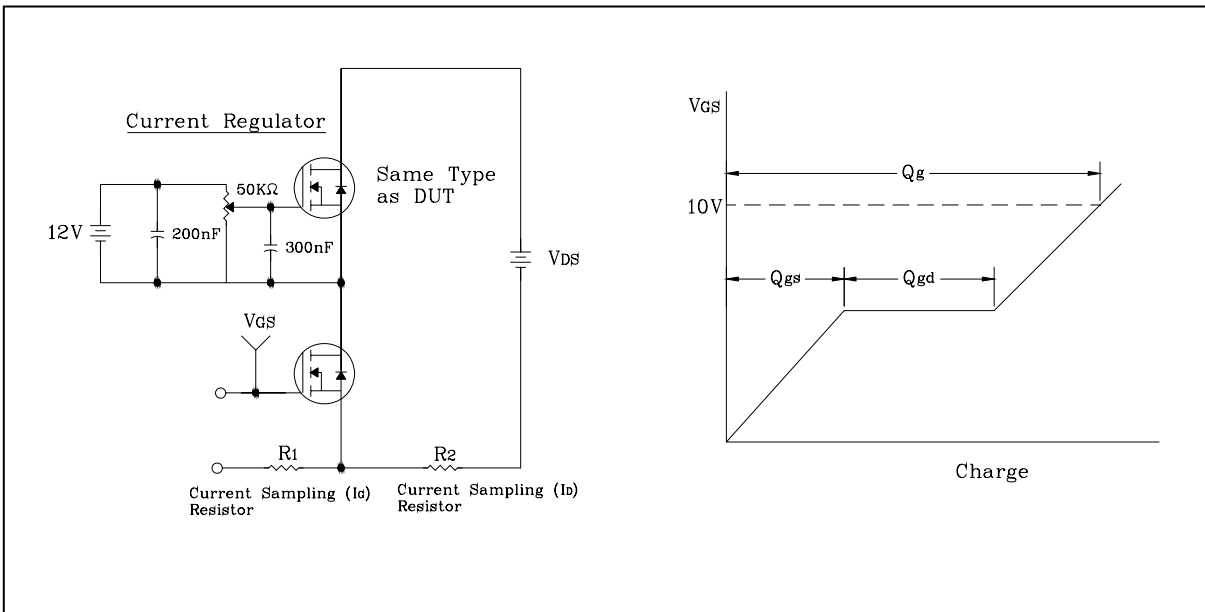


Fig. 11 Resistive Switching Test Circuit & Waveform

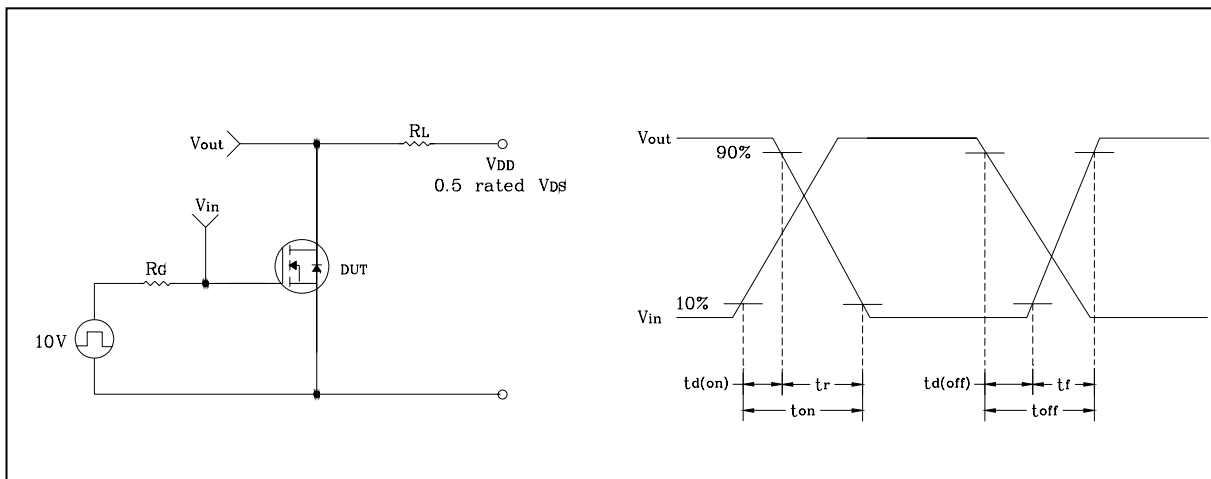


Fig. 12 E_{AS} Test Circuit & Waveform

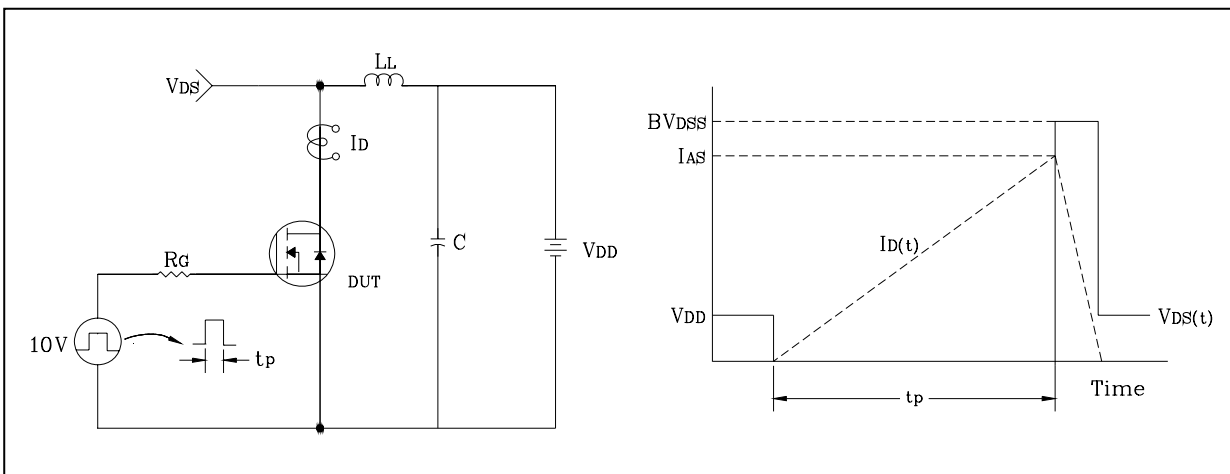
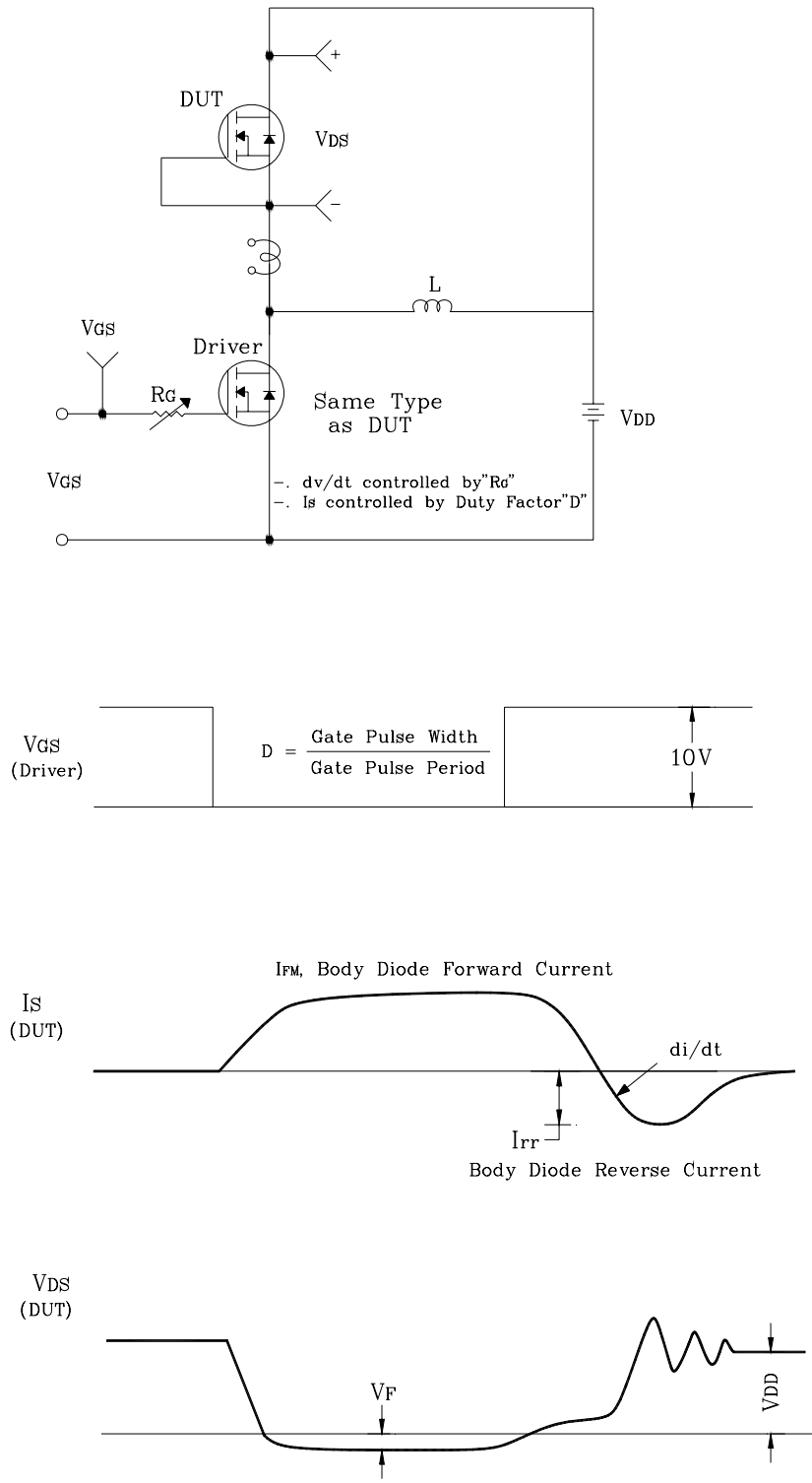
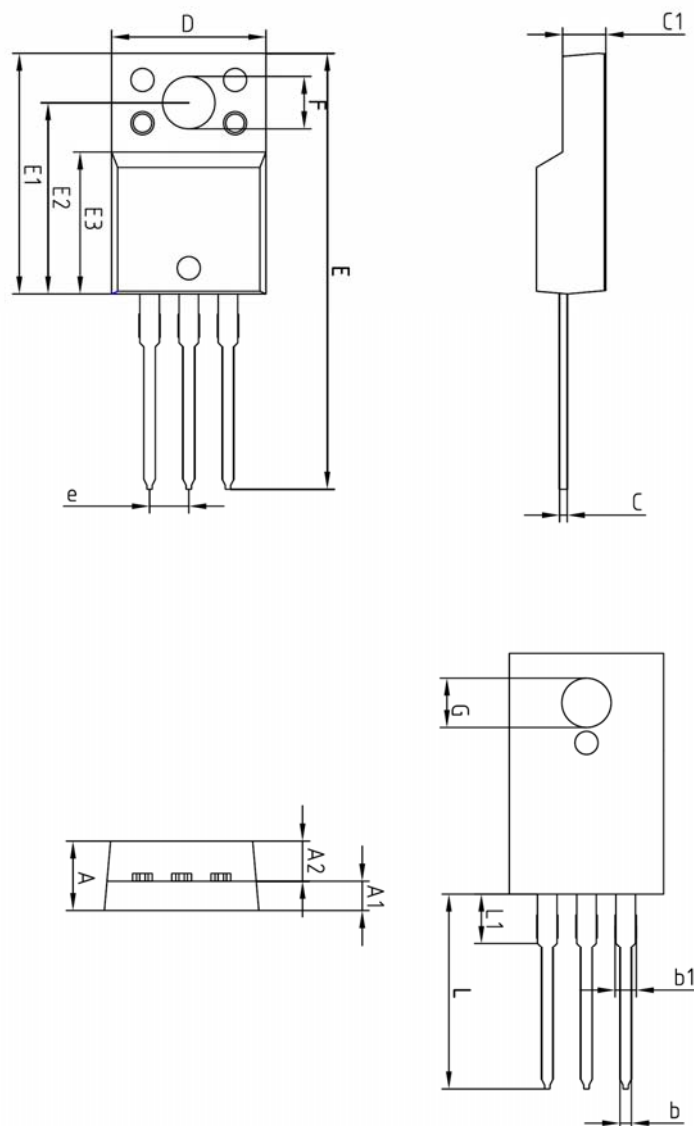


Fig. 13 Diode Reverse Recovery Time Test Circuit & Waveform



Outline Dimensions



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	-	-	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	-	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	-	13.00	
L1	3.46 BSC			

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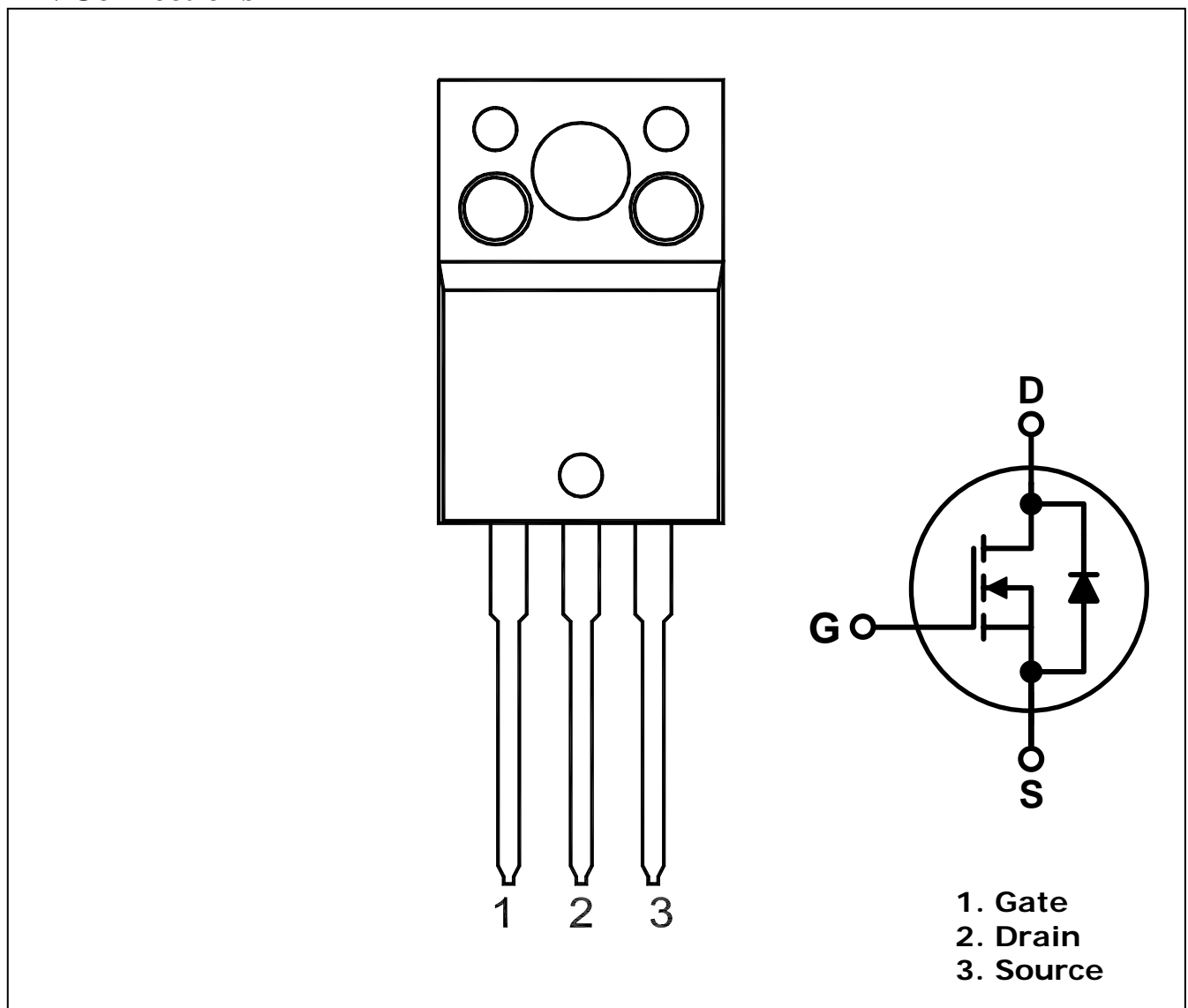
Features

- High Voltage: $BV_{DSS}=650V(\text{Min.})$
- Low C_{rSS} : $C_{rSS}=16pF(\text{Typ.})$
- Low gate charge : $Qg=35nc(\text{Typ.})$
- Low $R_{DS(on)}$: $R_{DS(on)}=0.85\Omega(\text{Max.})$

Ordering Information

Type NO.	Marking	Package Code
SMK0965F	SMK0965	TO-220F-3L

PIN Connections



Absolute maximum ratings

(Tc=25°C)

Characteristic	Symbol	Rating	Unit	
Drain-source voltage	V_{DSS}	650	V	
Gate-source voltage	V_{GSS}	±30	V	
Drain current (DC)*	I_D	(Tc=25°C)	9	A
		(Tc=100°C)	5.5	A
Drain current (Pulsed)*	I_{DM}	36	A	
Drain power dissipation	P_D	40	W	
Avalanche current (Single) ②	I_{AS}	9	A	
Single pulsed avalanche energy ②	E_{AS}	250	mJ	
Avalanche current (Repetitive) ①	I_{AR}	9	A	
Repetitive avalanche energy ①	E_{AR}	11.6	mJ	
Junction temperature	T_J	150	°C	
Storage temperature range	T_{stg}	-55~150		

* Limited by maximum junction temperature

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	$R_{th(J-C)}$	-	3.1	°C/W
	Junction-ambient	$R_{th(J-a)}$	-	62.5	

Electrical Characteristics

(Tc=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Drain-source breakdown voltage	BV_{DSS}	$I_D=250\mu A, V_{GS}=0$	650	-	-	V	
Gate threshold voltage	$V_{GS(th)}$	$I_D=250\mu A, V_{DS}=V_{GS}$	2.0	-	4.0	V	
Drain-source cut-off current	I_{DSS}	$V_{DS}=650V, V_{GS}=0V$	-	-	1	μA	
Gate leakage current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 30V$	-	-	± 100	nA	
Drain-source on-resistance ④	$R_{DS(on)}$	$V_{GS}=10V, I_D=4.5A$	-	0.72	0.85	Ω	
Forward transfer conductance ④	g_{fs}	$V_{DS}=10V, I_D=4.5A$	-	11	-	S	
Input capacitance	C_{iss}	$V_{GS}=0V, V_{DS}=25V$ $f=1MHz$	-	2040	2550	pF	
Output capacitance	C_{oss}		-	153	192		
Reverse transfer capacitance	C_{rss}		-	16	20		
Turn-on delay time	$t_{d(on)}$	$V_{DD}=300V, I_D=9.0A$ $R_G=25\Omega$	-	23	-	ns	
Rise time	t_r		-	69	-		
Turn-off delay time	$t_{d(off)}$		③④	-	144		-
Fall time	t_f		-	77	-		
Total gate charge	Q_g	$V_{DS}=520V, V_{GS}=10V$ $I_D=9.0A$	-	35	57	nC	
Gate-source charge	Q_{gs}		-	10	-		
Gate-drain charge	Q_{gd}		③④	-	9.0		-

Source-Drain Diode Ratings and Characteristics

(Tc=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Source current (DC)	I_S	Integral reverse diode in the MOSFET	-	-	9	A
Source current (Pulsed) ①	I_{SM}		-	-	36	
Forward voltage ④	V_{SD}	$V_{GS}=0V, I_S=9.0A$	-	-	1.4	V
Reverse recovery time	t_{rr}	$I_S=9.0A, V_{GS}=0,$ $di_S/dt=100A/\mu s$	-	420	-	ns
Reverse recovery charge	Q_{rr}		-	4.2	-	μC

Note ;

- ① Repetitive Rating : Pulse Width Limited by Maximum Junction Temperature
- ② $L=5.7mH, I_{AS}=9A, V_{DD}=50V, R_G=25\Omega$, Starting $T_J = 25^\circ C$
- ③ Pulse Test : Pulse Width < 300us, Duty cycle $\leq 2\%$
- ④ Essentially independent of operating temperature

Electrical Characteristic Curves

Fig. 1 $I_D - V_{DS}$

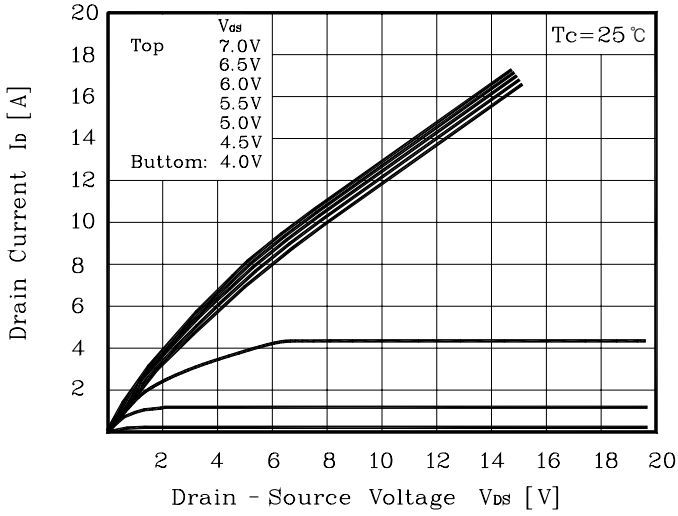


Fig. 2 $I_D - V_{GS}$

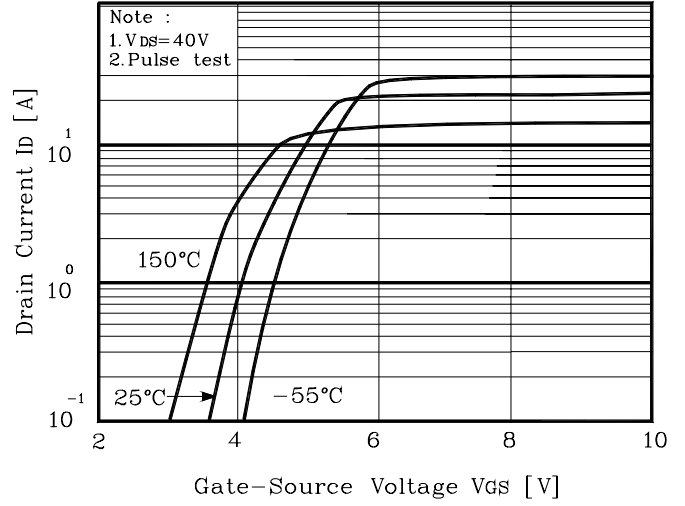


Fig. 3 $R_{DS(on)} - I_D$

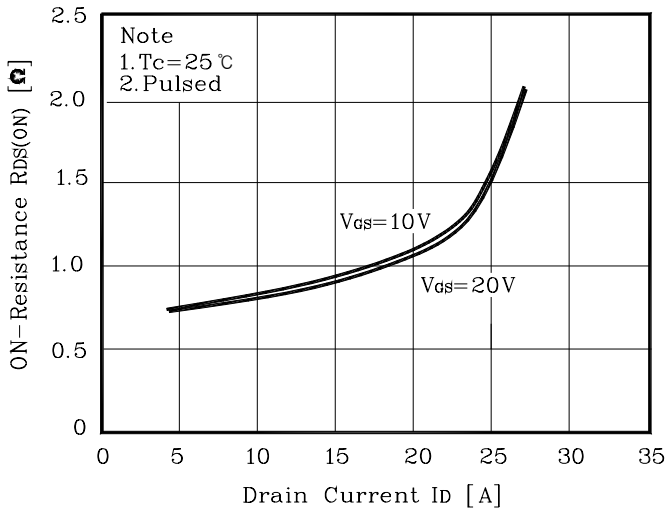


Fig. 4 $I_S - V_{SD}$

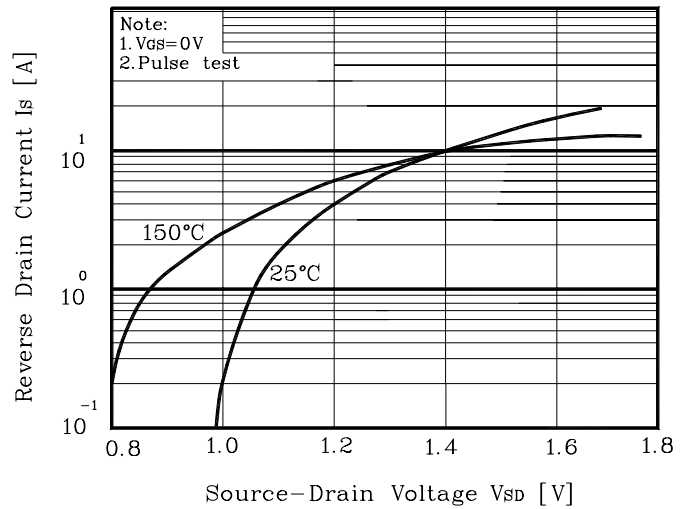


Fig. 5 Capacitance - V_{DS}

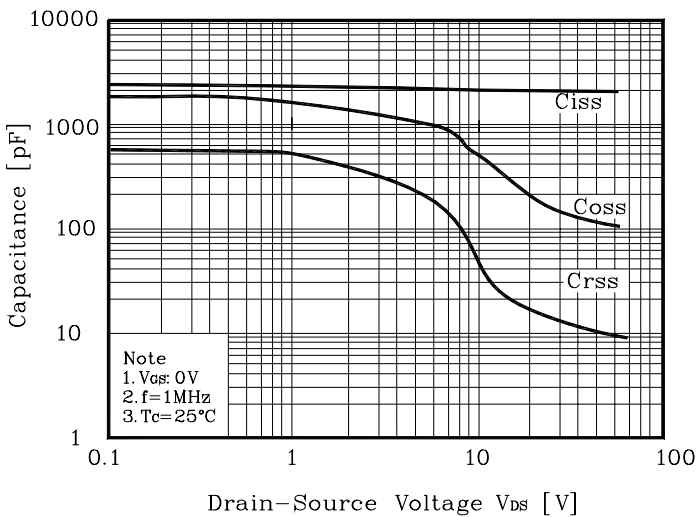
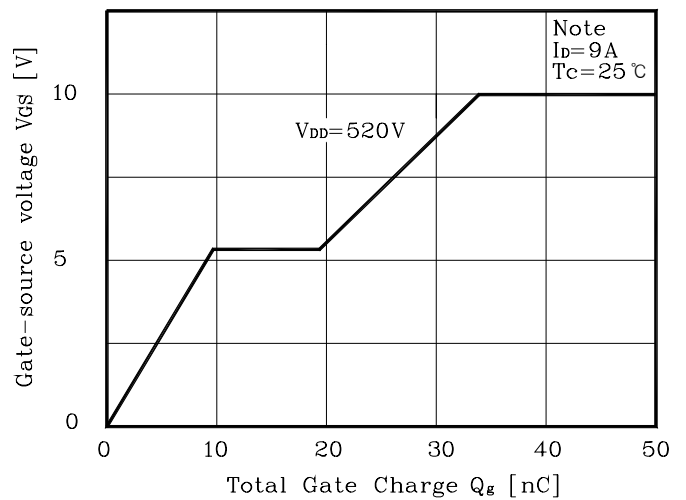


Fig. 6 $V_{GS} - Q_G$



Electrical Characteristic Curves

Fig. 7 $V_{DSS} - T_J$

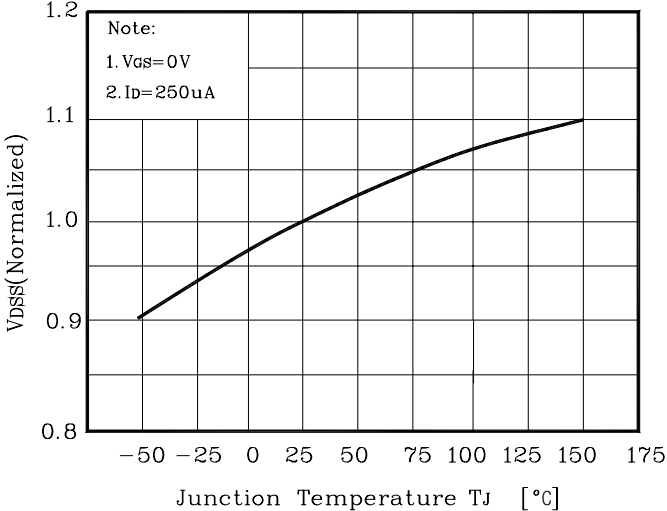


Fig.8 $R_{DS(on)} - T_J$

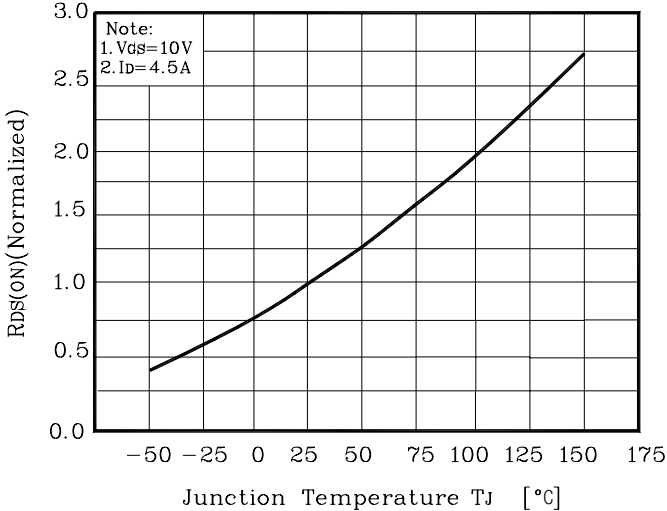


Fig. 9 $I_D - T_C$

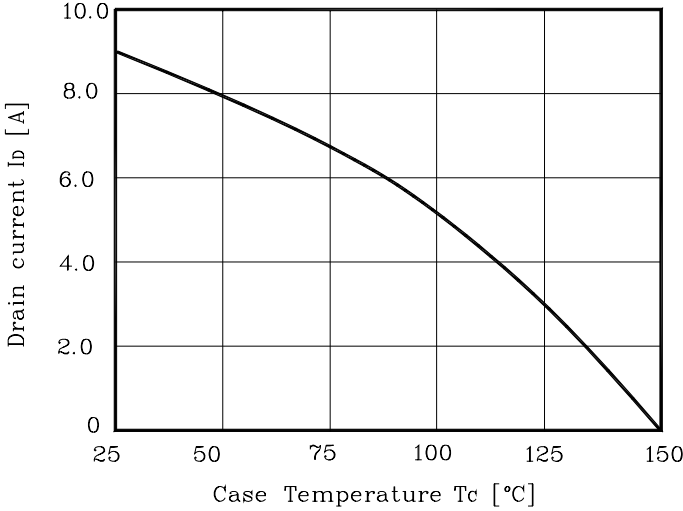


Fig. 10 Safe Operating Area

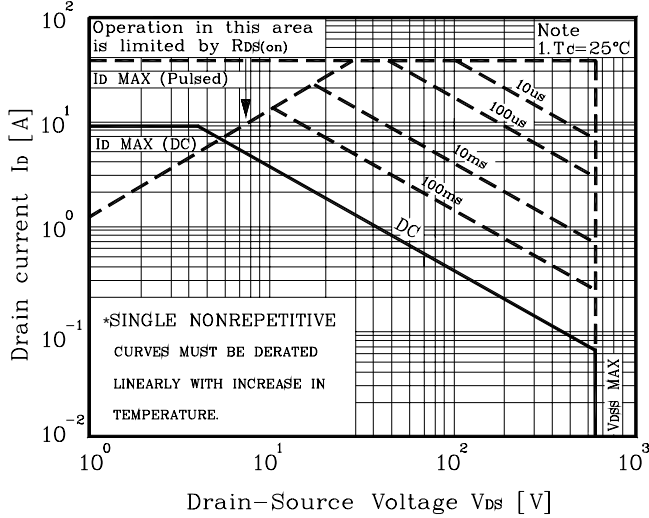


Fig. 10 Gate Charge Test Circuit & Waveform

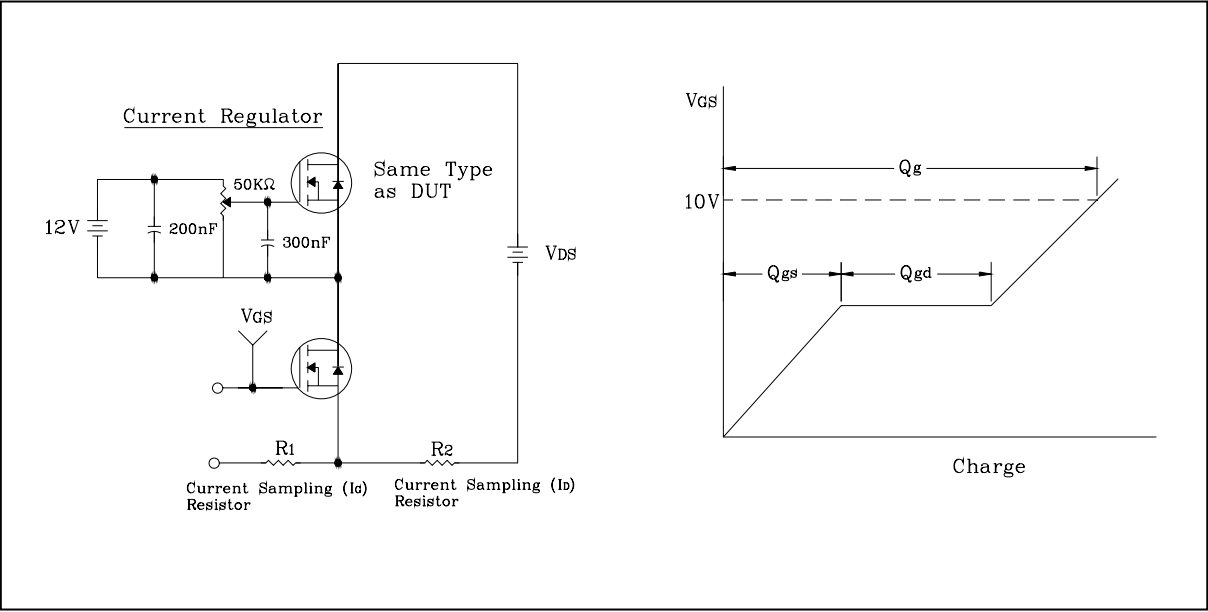


Fig. 11 Resistive Switching Test Circuit & Waveform

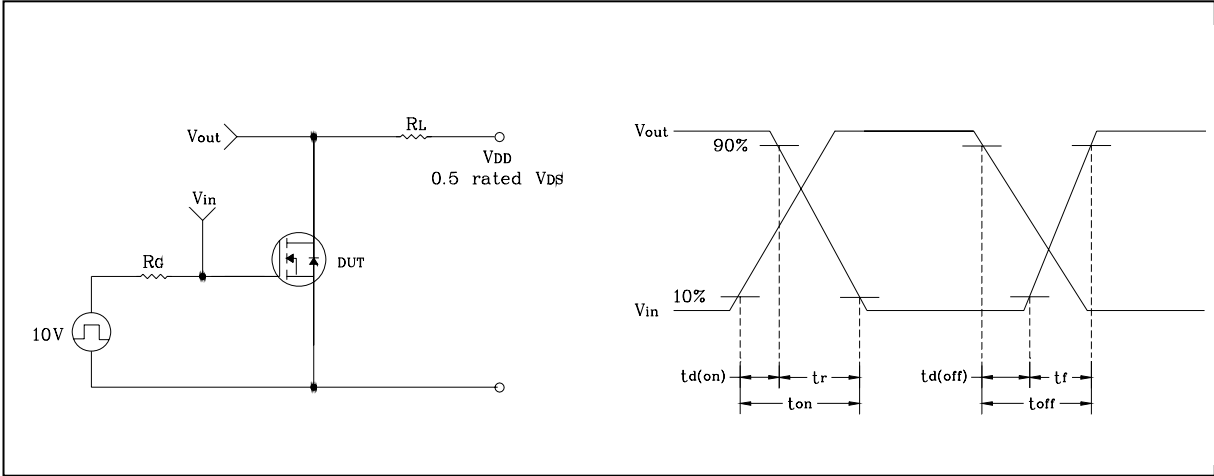


Fig. 12 EAS Test Circuit & Waveform

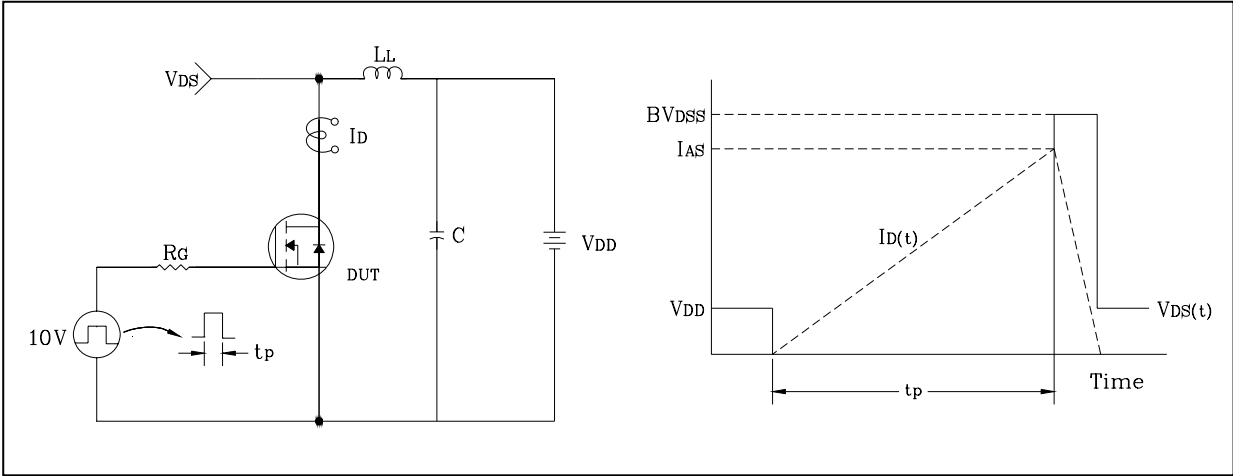
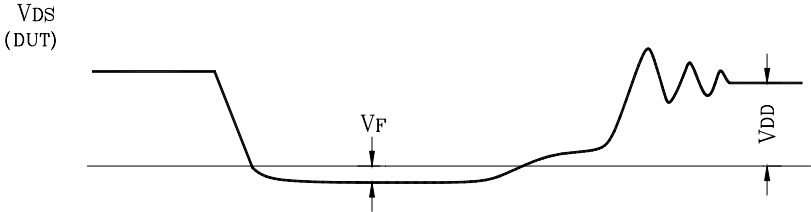
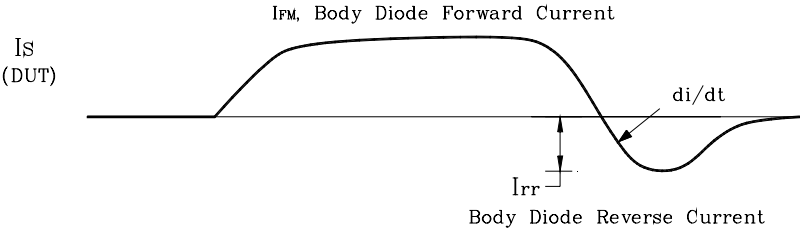
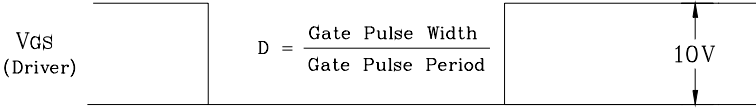
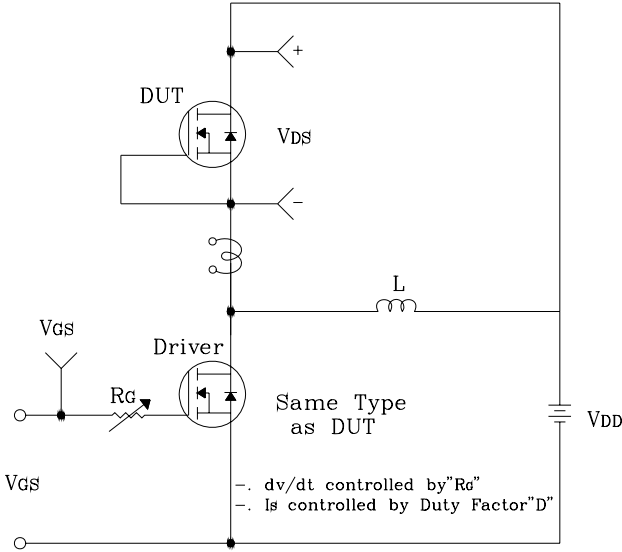
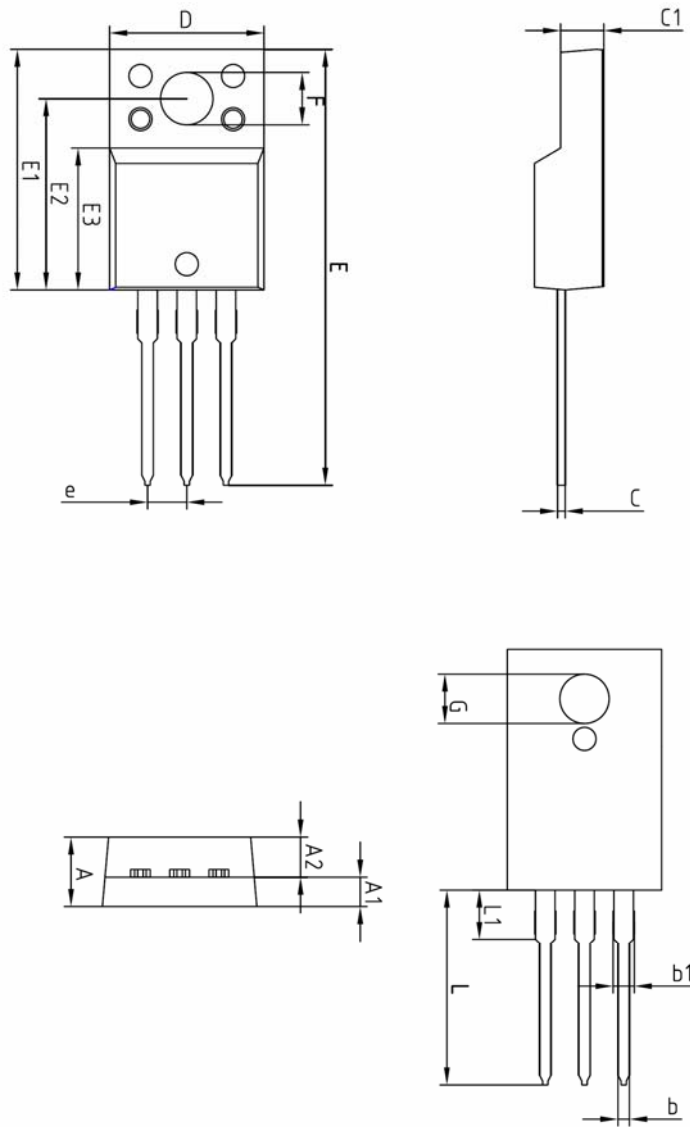


Fig. 13 Diode Reverse Recovery Time Test Circuit & Waveform



Outline Dimensions



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	-	-	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	-	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	-	13.00	
L1	3.46 BSC			

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SWITCHING REGULATOR APPLICATIONS

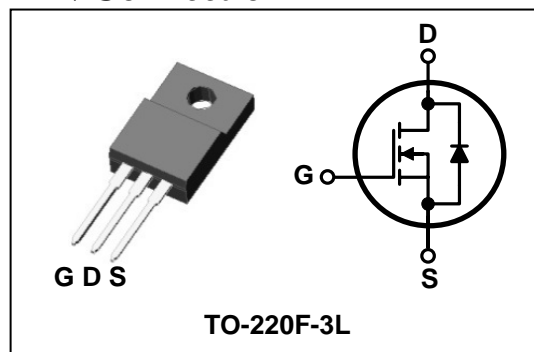
Features

- High Voltage: $BV_{DSS}=600V(\text{Min.})$
- Low C_{rSS} : $C_{rSS}=18pF(\text{Typ.})$
- Low gate charge : $Qg=35nc(\text{Typ.})$
- Low $R_{DS(on)}$: $R_{DS(on)}=0.75\Omega(\text{Max.})$

Ordering Information

Type No.	Marking	Package Code
SMK1060F	SMK1060	TO-220F-3L

PIN Connection



Absolute maximum ratings ($T_C=25^\circ\text{C}$ unless otherwise noted)

Characteristic	Symbol	Rating	Unit
Drain-source voltage	V_{DSS}	600	V
Gate-source voltage	V_{GSS}	± 30	V
Drain current (DC)*	I_D	($T_C=25^\circ\text{C}$)	10
		($T_C=100^\circ\text{C}$)	5.8
Drain current (Pulsed)*	I_{DM}	38	A
Drain power dissipation	P_D	40	W
Avalanche current (Single) ②	I_{AS}	10	A
Single pulsed avalanche energy ②	E_{AS}	490	mJ
Avalanche current (Repetitive) ①	I_{AR}	10	A
Repetitive avalanche energy ①	E_{AR}	11.6	mJ
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55~150	

* Limited by maximum junction temperature

Characteristic	Symbol	Typ.	Max	Unit
Thermal resistance	Junction-case	-	3.1	$^\circ\text{C}/\text{W}$
	Junction-ambient	-	62.5	

Electrical Characteristics (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Drain-source breakdown voltage	BV _{DSS}	I _D =250μA, V _{GS} =0	600	-	-	V	
Gate threshold voltage	V _{GS(th)}	I _D =250μA, V _{DS} =V _{GS}	2.0	-	4.0	V	
Drain-source cut-off current	I _{DSS}	V _{DS} =600V, V _{GS} =0V	-	-	1	μA	
Gate leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±30V	-	-	±100	nA	
Drain-source on-resistance ④	R _{DS(on)}	V _{GS} =10V, I _D =5.0A	-	0.60	0.75	Ω	
Forward transfer conductance ④	g _{fs}	V _{DS} =10V, I _D =5.0A	-	8.0	-	S	
Input capacitance	C _{iss}	V _{GS} =0V, V _{DS} =25V f=1MHz	-	2000	2350	pF	
Output capacitance	C _{oss}		-	160	215		
Reverse transfer capacitance	C _{rss}		-	18	-		
Turn-on delay time	t _{d(on)}	V _{DD} =300V, I _D =10A R _G =25Ω	-	23	-	ns	
Rise time	t _r		-	69	-		
Turn-off delay time	t _{d(off)}		③④	-	144		-
Fall time	t _f		-	77	-		
Total gate charge	Q _g	V _{DS} =480V, V _{GS} =10V I _D =10A	-	35	57	nC	
Gate-source charge	Q _{gs}		③④	-	9.0		-
Gate-drain charge	Q _{gd}		-	-	10		-

Source-Drain Diode Ratings and Characteristics (T_C=25°C unless otherwise noted)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Source current (DC)	I _S	Integral reverse diode in the MOSFET	-	-	10	A
Source current (Pulsed) ①	I _{SM}		-	-	40	
Forward voltage ④	V _{SD}	V _{GS} =0V, I _S =10A	-	-	1.4	V
Reverse recovery time	t _{rr}	I _S =10A, V _{GS} =0, di _s /dt=100A/ us	-	470	-	ns
Reverse recovery charge	Q _{rr}		-	-	6	-

Note ;

- ① Repetitive Rating : Pulse Width Limited by Maximum Junction Temperature
- ② L=10mH, I_{AS}=9.5A, V_{DD}=50V, R_G=25Ω , Starting T_J = 25°C
- ③ Pulse Test : Pulse Width < 300us, Duty cycle ≤ 2%
- ④ Essentially independent of operating temperature

Electrical Characteristic Curves

Fig. 1 $I_D - V_{DS}$

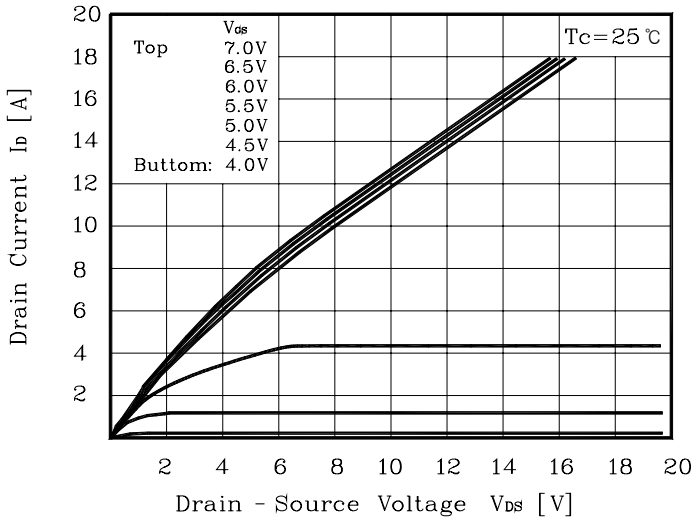


Fig. 2 $I_D - V_{GS}$

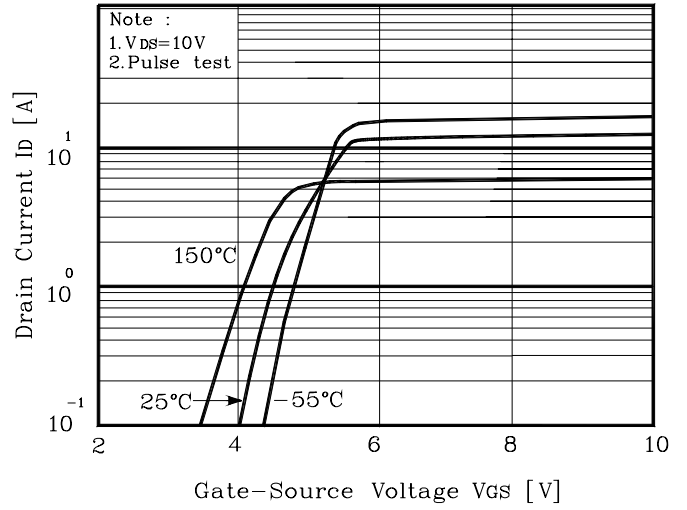


Fig. 3 $R_{DS(on)} - I_D$

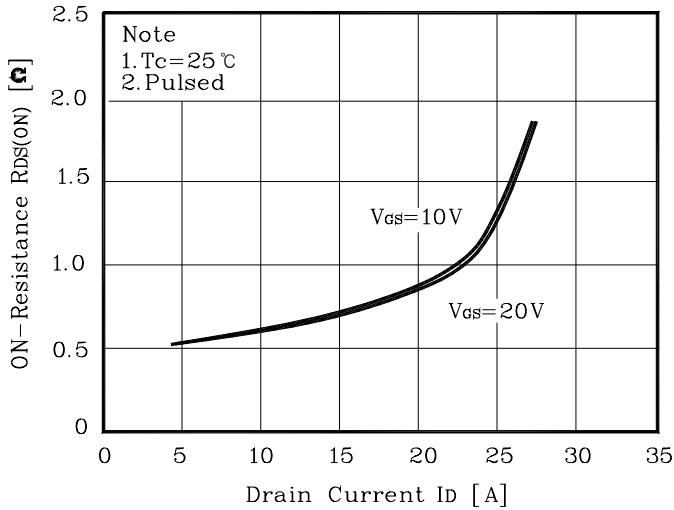


Fig. 4 $I_S - V_{SD}$

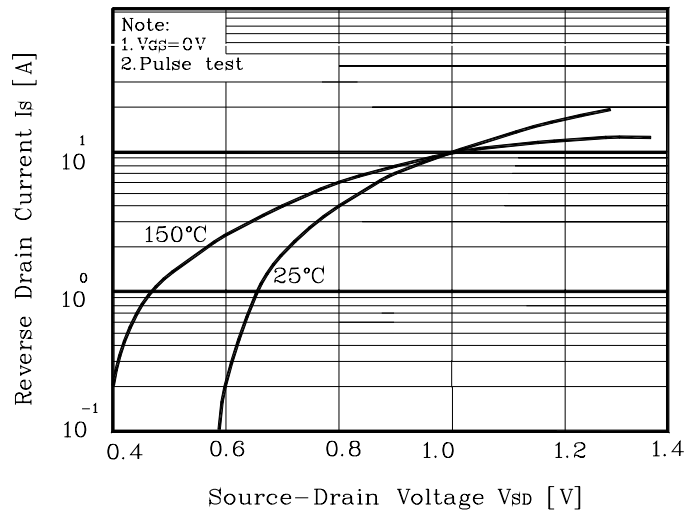


Fig. 5 Capacitance - V_{DS}

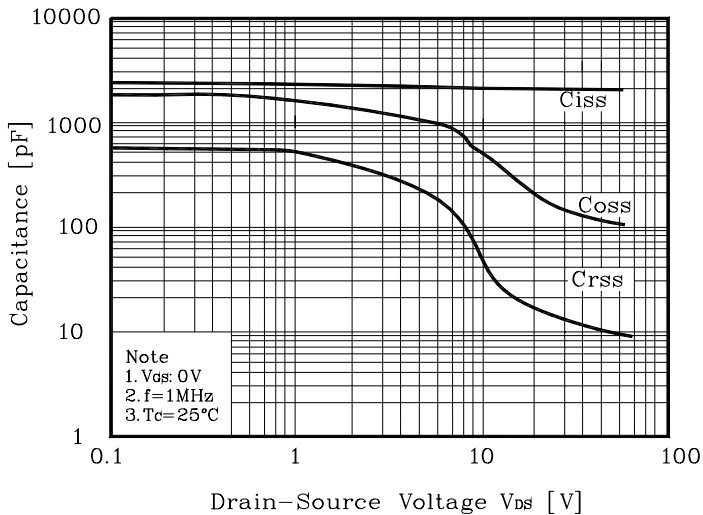
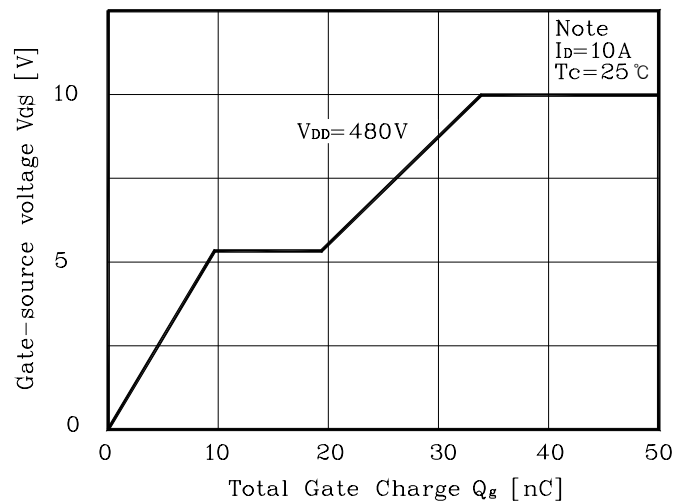


Fig. 6 $V_{GS} - Q_G$



Electrical Characteristic Curves

Fig. 7 $V_{DSS} - T_J$

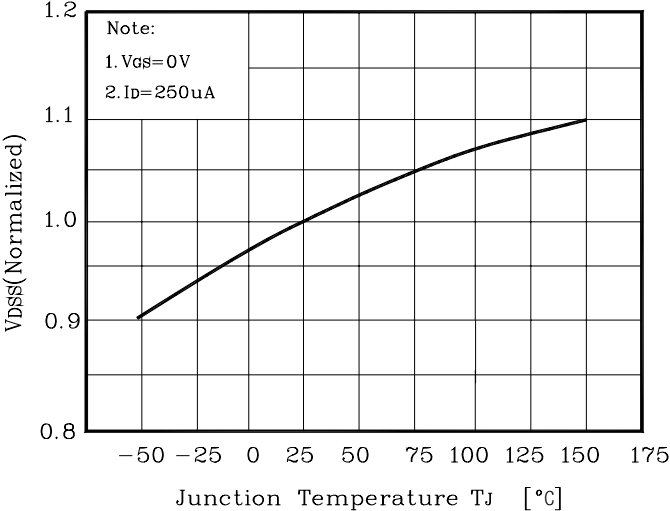


Fig. 8 $R_{DS(on)} - T_J$

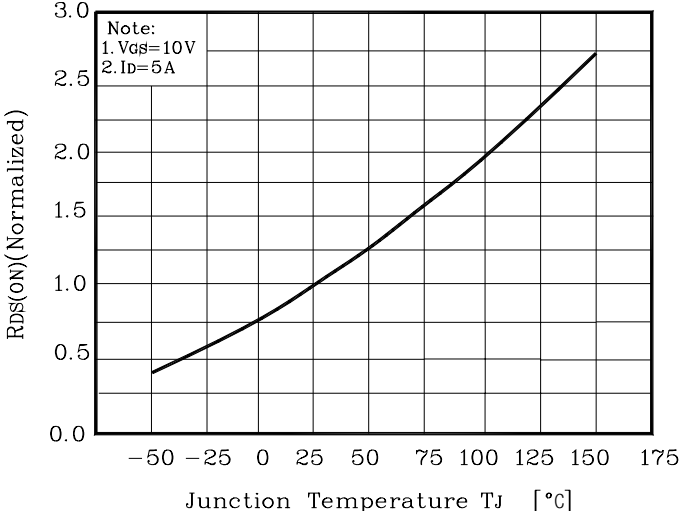


Fig. 9 $I_D - T_C$

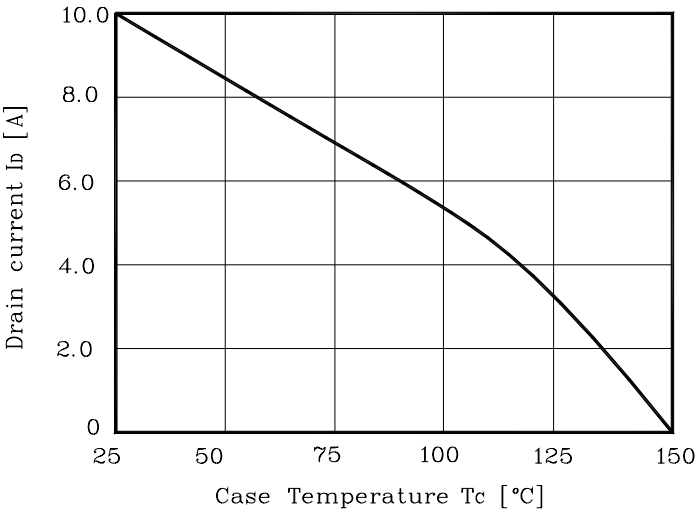


Fig. 10 Safe Operating Area

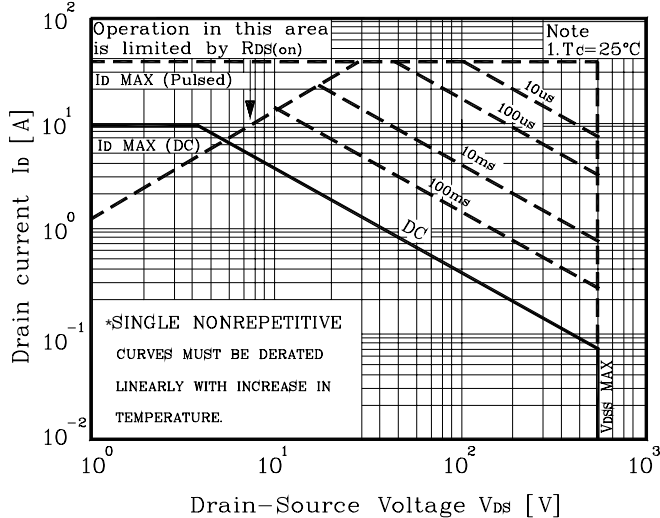


Fig. 10 Gate Charge Test Circuit & Waveform

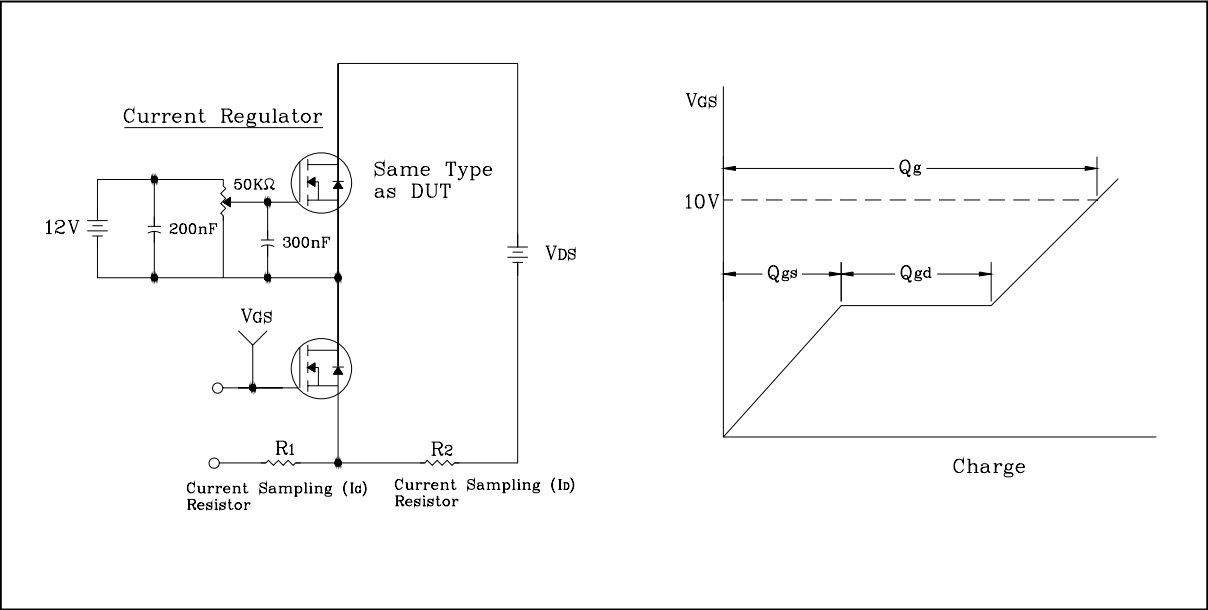


Fig. 11 Resistive Switching Test Circuit & Waveform

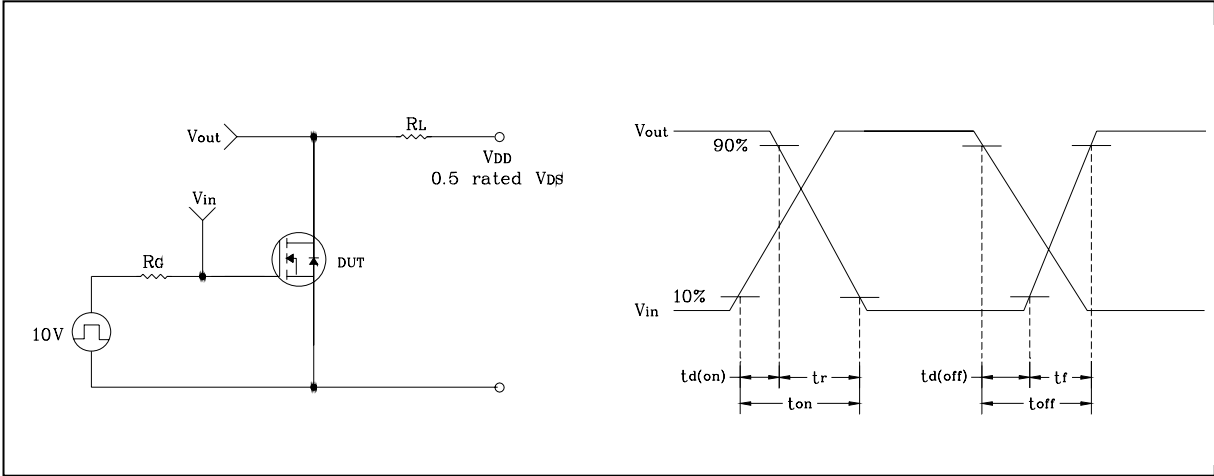


Fig. 12 E_{AS} Test Circuit & Waveform

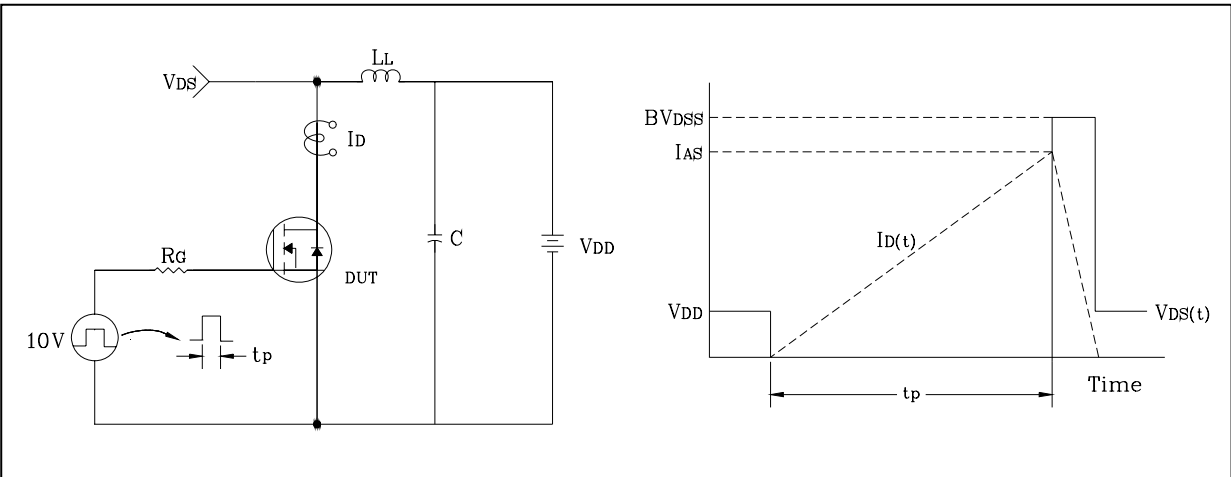
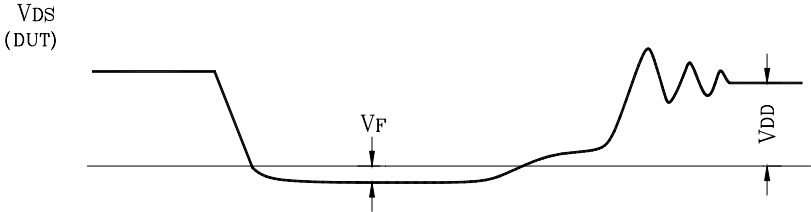
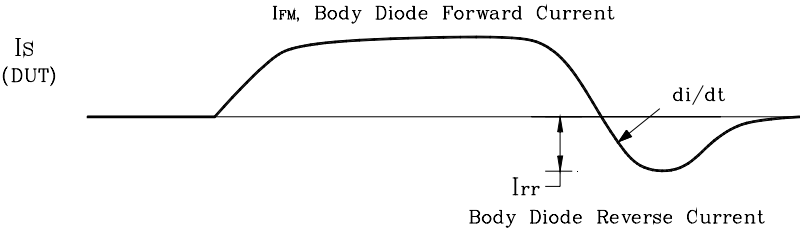
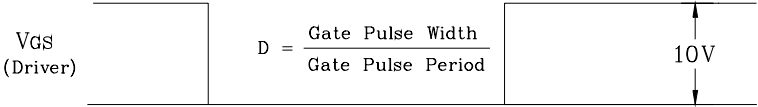
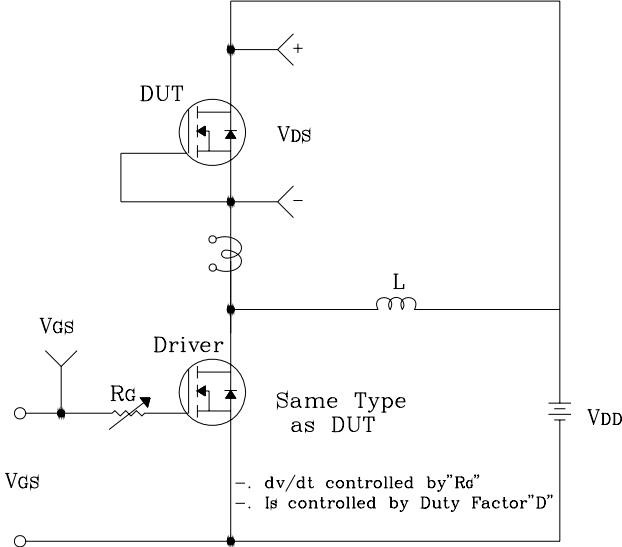
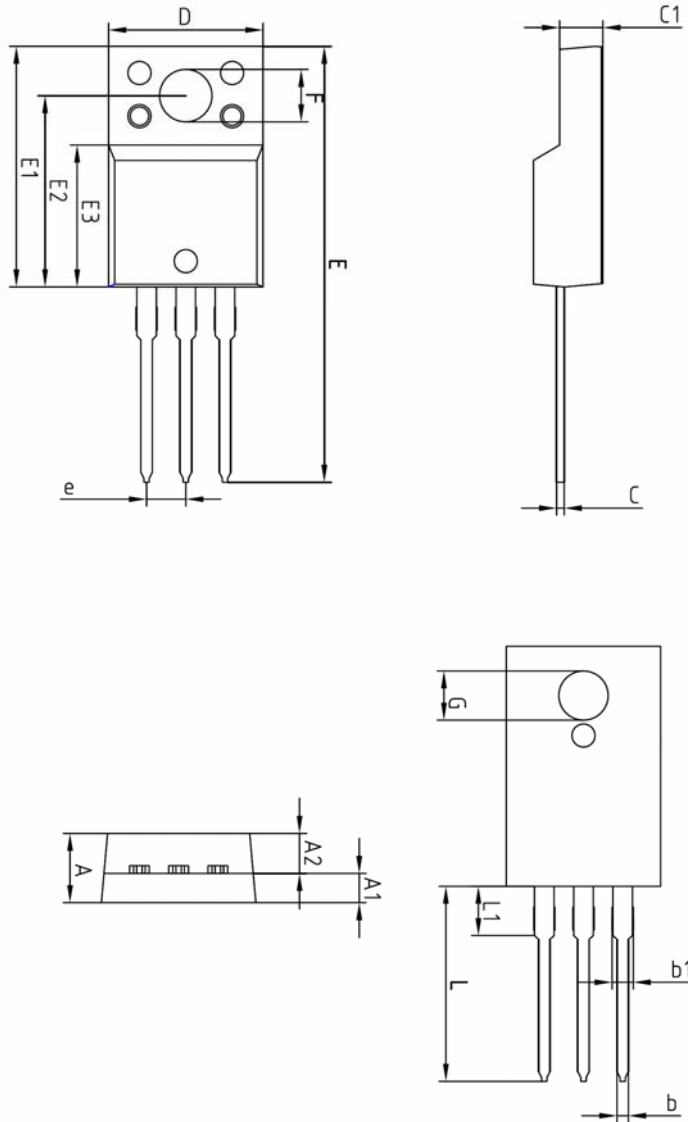


Fig. 13 Diode Reverse Recovery Time Test Circuit & Waveform





SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	-	-	4.60	
A1	2.45	2.50	2.55	
A2	1.95	2.00	2.05	
b	0.65	0.75	0.85	
b1	1.07	1.27	1.47	
C	0.40	0.50	0.60	
C1	2.70	2.80	2.90	
D	9.90	10.00	10.10	
E	28.00	-	28.60	
E1	15.50	15.60	15.70	
E2	12.30	12.40	12.50	
E3	9.15	9.20	9.25	
F	3.30	3.40	3.50	
G	3.10	3.20	3.30	
e	2.54 BSC			
L	12.40	-	13.00	
L1	3.46 BSC			

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