

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
30V	15mΩ@10V	8A
	22mΩ@4.5V	

Feature

- Low Input Capacitance
- Low On-Resistance
- Fast Switching Speed

Application

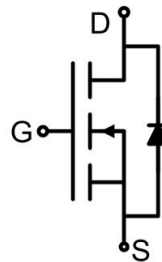
- Battery protection
- Load switch
- Power management

Package

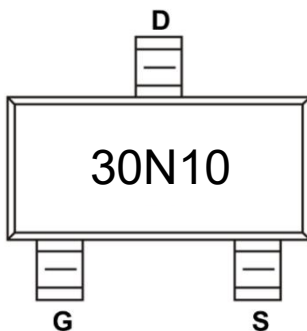


SOT-23-3L

Circuit diagram



Marking



Absolute maximum ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	I_D	8	A
Pulsed Drain Current	I_{DM}	32	A
Power Dissipation ¹⁾	P_D	1.4	W
Thermal Resistance from Junction to Ambient	$R_{\theta JA}$	90	$^{\circ}C/W$
Junction Temperature	T_J	150	$^{\circ}C$
Storage Temperature	T_{STG}	-55 ~ +150	$^{\circ}C$

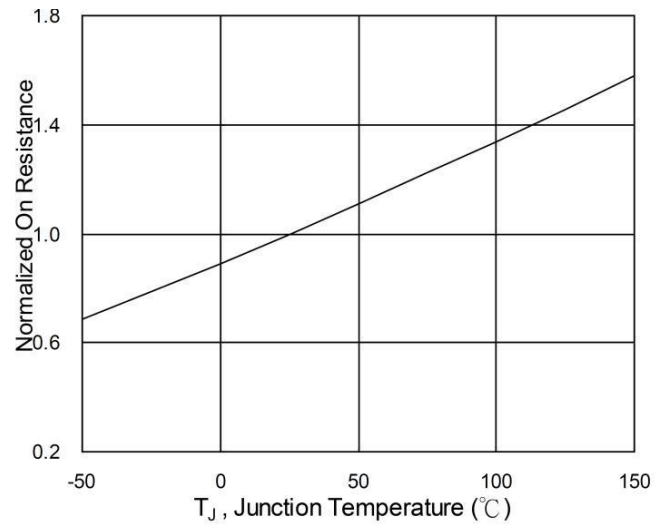
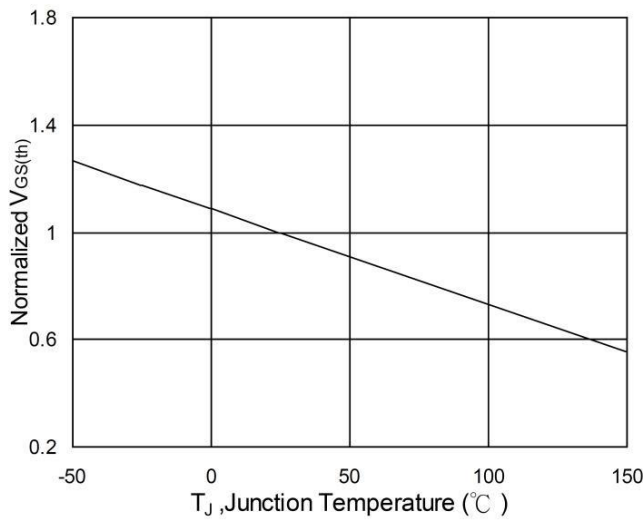
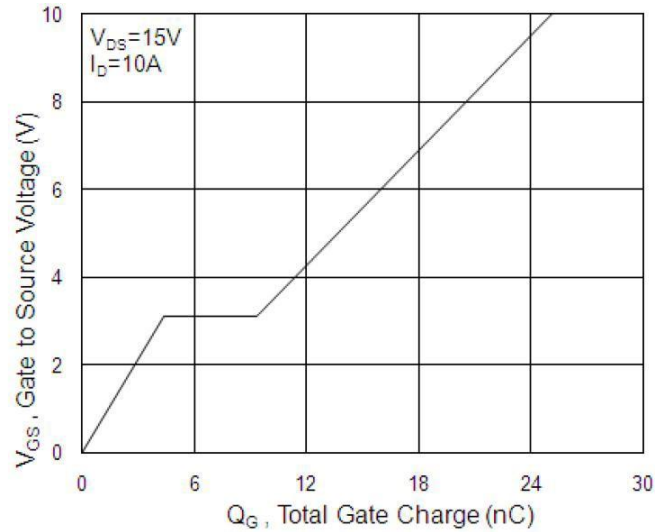
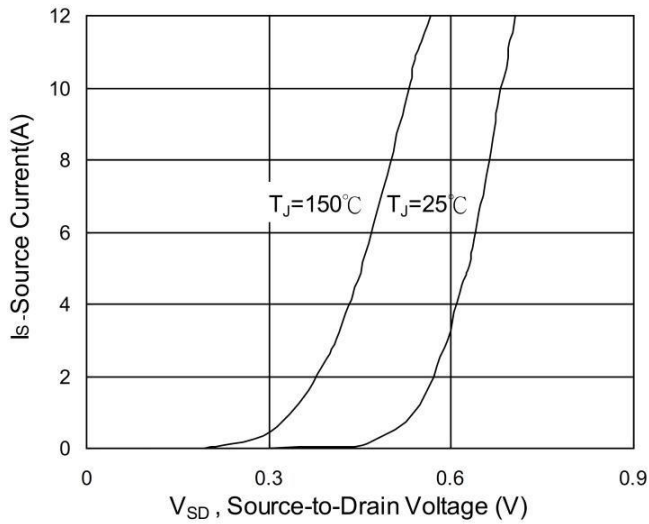
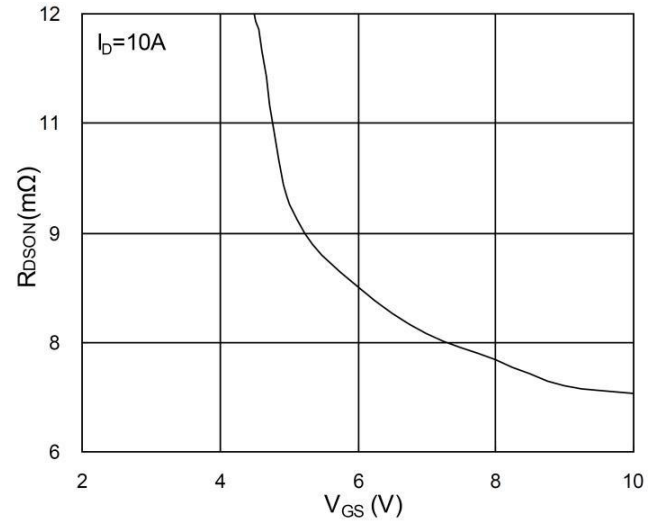
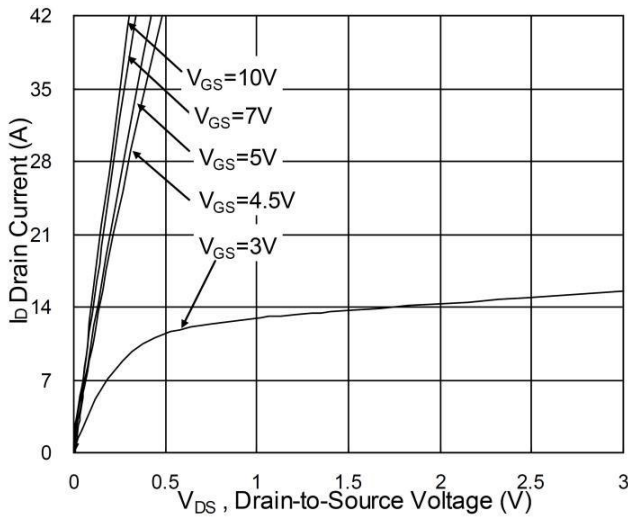
Electrical characteristics (Ta=25°C unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 30V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			± 100	nA
Gate threshold voltage ³⁾	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	1.0		2.2	V
Drain-source on-resistance ³⁾	$R_{DS(on)}$	$V_{GS} = 10V, I_D = 5.0A$			15	m Ω
		$V_{GS} = 4.5V, I_D = 4.0A$			22	
Dynamic characteristics⁴⁾						
Input Capacitance	C_{iss}	$V_{DS} = 15V, V_{GS} = 0V, f = 1MHz$		1317		pF
Output Capacitance	C_{oss}			163		
Reverse Transfer Capacitance	C_{rss}			131		
Total Gate Charge	Q_g	$V_{DS} = 25V, V_{GS} = 10V, I_D = 12A$		12.6		nC
Gate-Source Charge	Q_{gs}			4.2		
Gate-Drain Charge	Q_{gd}			5.1		
Turn-on delay time	$t_{d(on)}$	$V_{DS} = 15V, V_{GS} = 10V, I_D = 10A, R_{GEN} = 3.3\Omega$		6.2		nS
Turn-on rise time	t_r			59		
Turn-off delay time	$t_{d(off)}$			27.6		
Turn-off fall time	t_f			8.4		
Source-Drain Diode characteristics						
Diode Forward voltage ²⁾	V_{DS}	$V_{GS} = 0V, I_S = 1A$			1.2	V

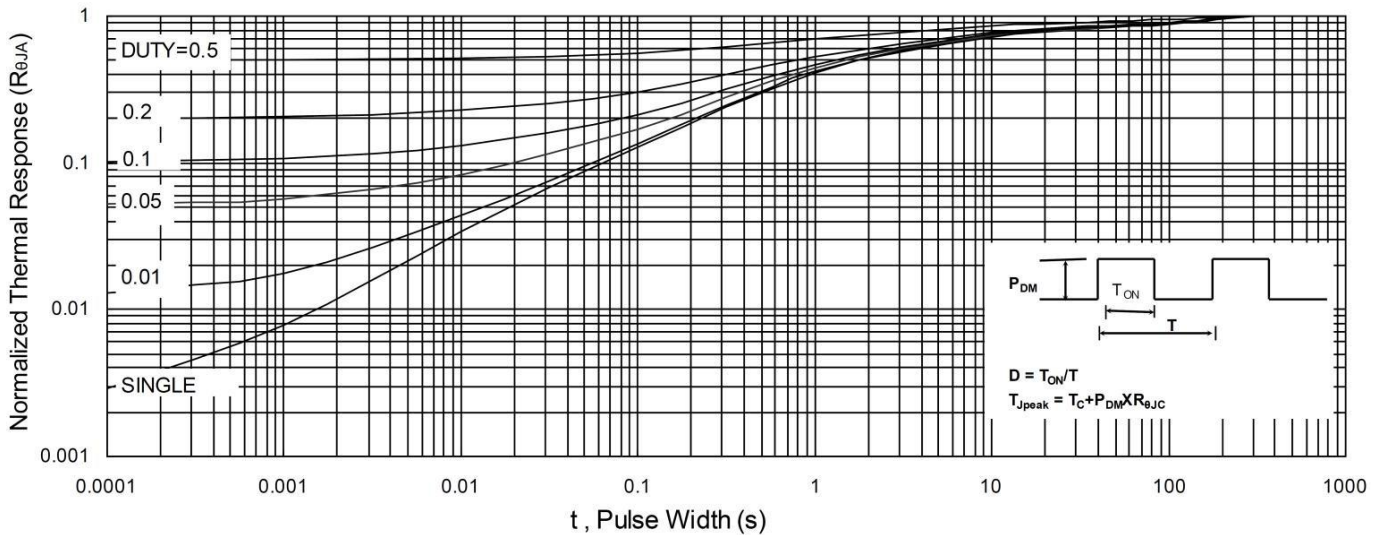
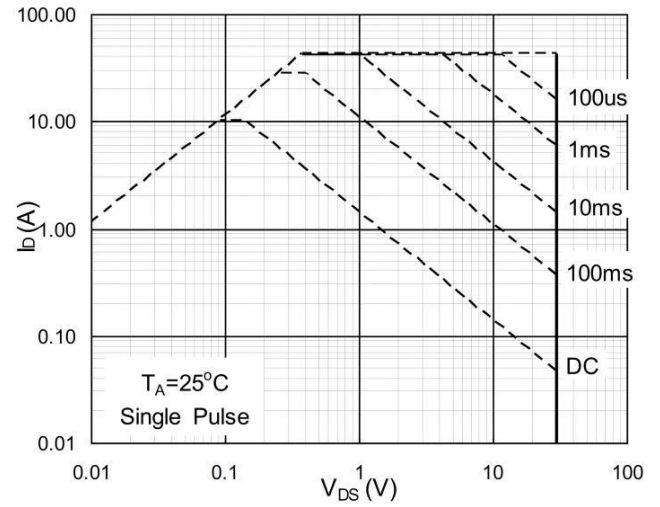
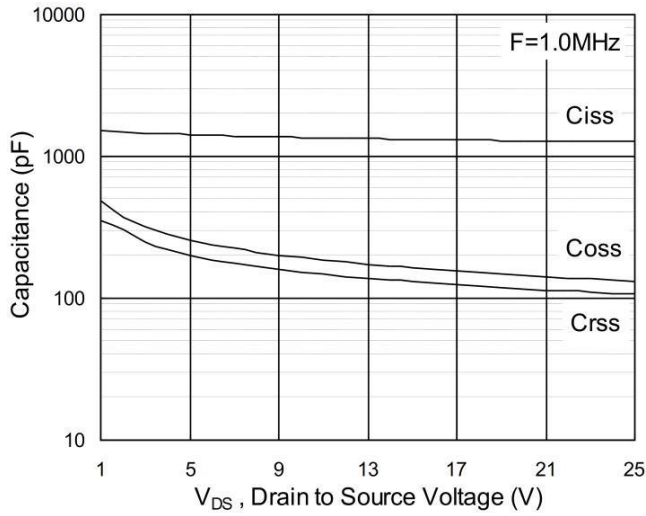
Notes:

- 1) Repetitive Rating: Pulse width limited by maximum junction temperature.
- 2) Surface Mounted on FR4 Board, $t \leq 10$ sec.
- 3) Pulse Test: Pulse Width $\leq 300\mu s$, Duty Cycle $\leq 2\%$.
- 4) Guaranteed by design, not subject to production

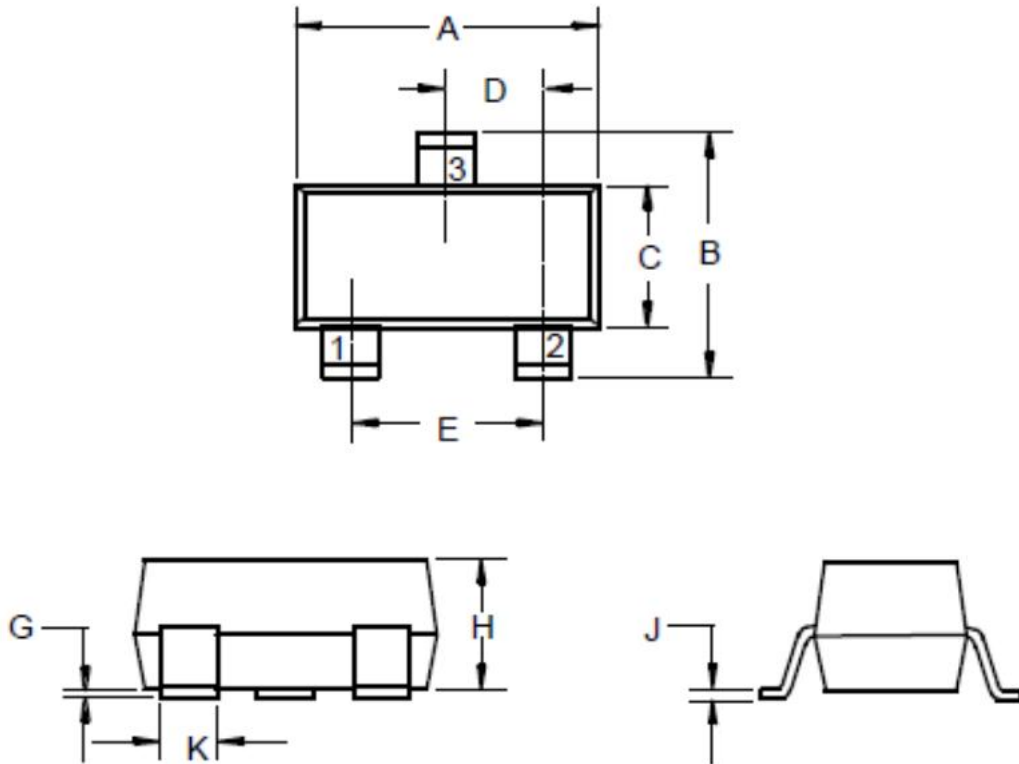
Typical Characteristics



Typical Characteristics



SOT-23-3L Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.820	3.020	0.111	0.119
B	2.650	2.950	0.104	0.116
C	1.500	1.700	0.059	0.067
D	0.865	1.015	0.034	0.040
E	1.800	2.000	0.071	0.079
G	0.000	0.100	0.000	0.004
H	1.050	1.250	0.041	0.049
J	0.100	0.200	0.004	0.008
K	0.300	0.500	0.012	0.020