

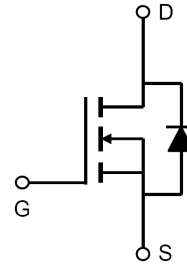
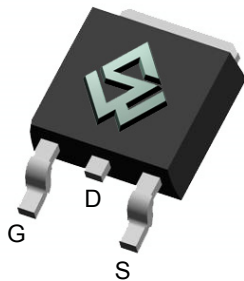
**30V Single N-Channel Enhancement-Mode MOSFET****General Description**

- Low $R_{ds(on)}$.
- Fully characterized Avalanche voltage and current.
- EAS 100% Test

Product Summary

- BV_{DSS} 30V
- $R_{DS(on)}$ @VGS = 10V < 15m Ω
- $R_{DS(on)}$ @VGS = 4.5V < 20m Ω

TO-252 D-PAK

**Absolute Maximum Ratings** ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	30	V
Gate-Source Voltage	V_{GS}	± 20	V
Drain Current ($T_C=25^\circ\text{C}$)	I_D	50	A
Drain Current ($T_C=100^\circ\text{C}$)		30	
Drain Current ($T_A=25^\circ\text{C}$)		11	
Drain Current ($T_A=100^\circ\text{C}$)		9	
Pulsed Drain Current ^a	I_{DM}	110	A
Single Pulse Avalanche energy ^b	E_{AS}	24	mJ
Power Dissipation	P_D	37.5	W
Junction and Storage Temperature Range	T_J, T_{STG}	-55 ~ +150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Maximum	Units
Thermal Resistance, Junction-to-Case ^c	$R_{\theta JC}$	4	$^\circ\text{C/W}$



Electrical Characteristics (T _A = 25°C unless otherwise noted)						
Symbol	Parameter	Conditions	Min	Typ	Max	Units
Off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} = 0V , I _D = 250uA	30			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} = 30V , V _{GS} = 0V			1	uA
I _{GSS}	Gate-Body Leakage Current	V _{GS} = ±20V , V _{DS} = 0V			±100	nA
On Characteristics						
V _{GS(th)}	Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = 250uA	1	1.5	3	V
R _{DS(ON)}	Drain-Source On-State Resistance	V _{GS} = 10V , I _D = 30A		11	15	mΩ
		V _{GS} = 4.5V , I _D = 24A		14	20	mΩ
g _{FS}	Forward Transconductance	V _{DS} = 5.0V , I _D = 24A		34		S
Drain-Source Diode Characteristics						
V _{SD}	Diode Forward Voltage	V _{GS} = 0V , I _S = 1.0A			1.2	V
I _S	Maximum Body-Diode Continuous Current				43	A
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{DS} = 15V , V _{GS} = 0V f = 1.0MHz		1150		pF
C _{oss}	Output Capacitance			153		pF
C _{rss}	Reverse Transfer Capacitance			129		pF
Switching Characteristics						
Q _g	Total Gate Charge	V _{DS} = 10V , I _D = 15A V _{GS} = 4.5V		12		nC
Q _{gs}	Gate-Source Charge			4.5		nC
Q _{gd}	Gate-Drain Charge			3.8		nC
t _{D(ON)}	Turn-On Delay Time	V _{DD} = 15V , I _D = 15A V _{GS} = 10 V R _{GEN} = 3.3ohm		5		ns
t _r	Turn-On Rise Time			9		ns
t _{D(OFF)}	Turn-Off Delay Time			32		ns
t _f	Turn-Off Fall Time			5		ns

- a. Repetitive rating, Pulse width limited by junction temperature T_{J(MAX)}=150 °C. Ratings are based on low frequency and duty cycles to keep initial T_J=25 °C
- b. EAS Condition: T_J=25 °C, V_{DD}=25V, V_G=10V, L=0.1mH, R_g=25Ω
- c. The value of R_{θJC} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C. The value in any given application depends on the user's specific board design.



Typical Characteristics

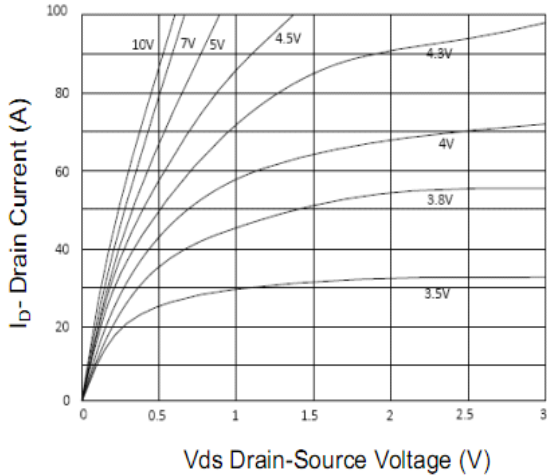


Figure 1 Output Characteristics

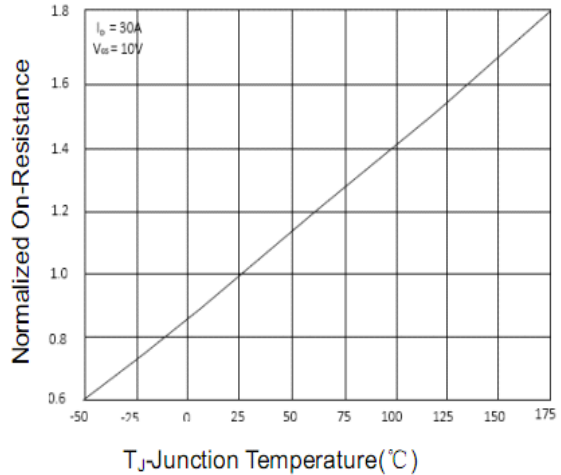


Figure 4 R_{dson} -Junction Temperature

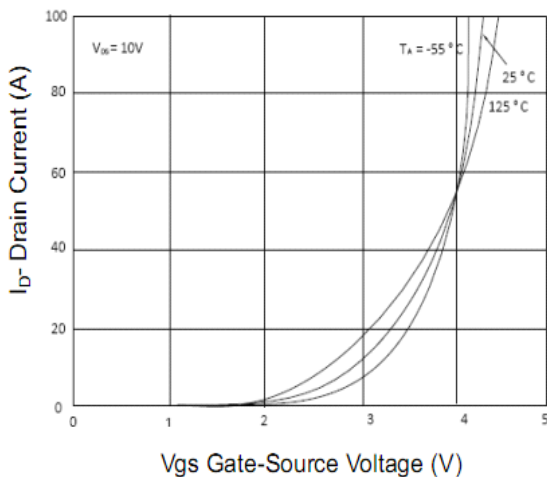


Figure 2 Transfer Characteristics

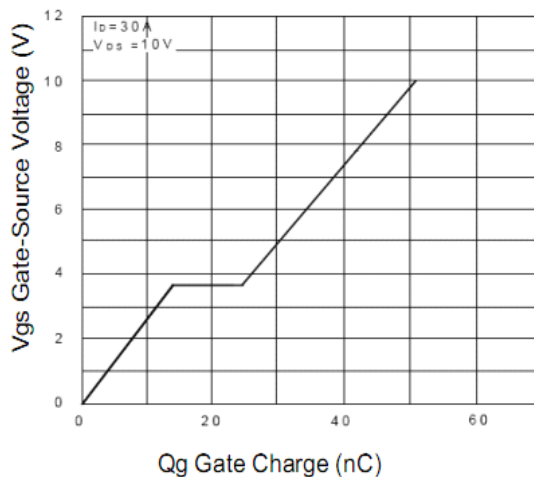
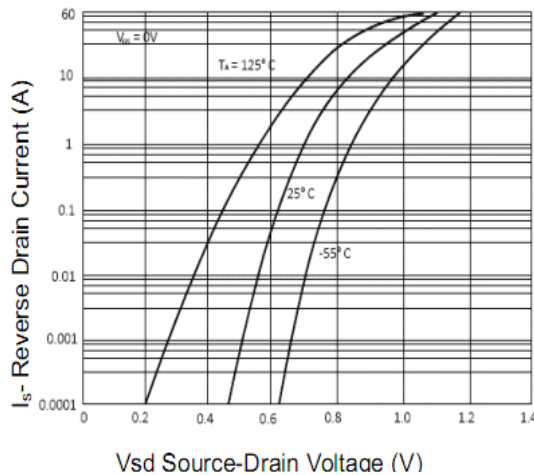
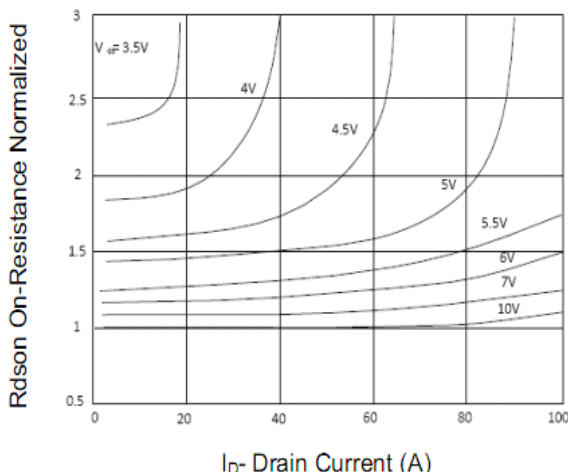
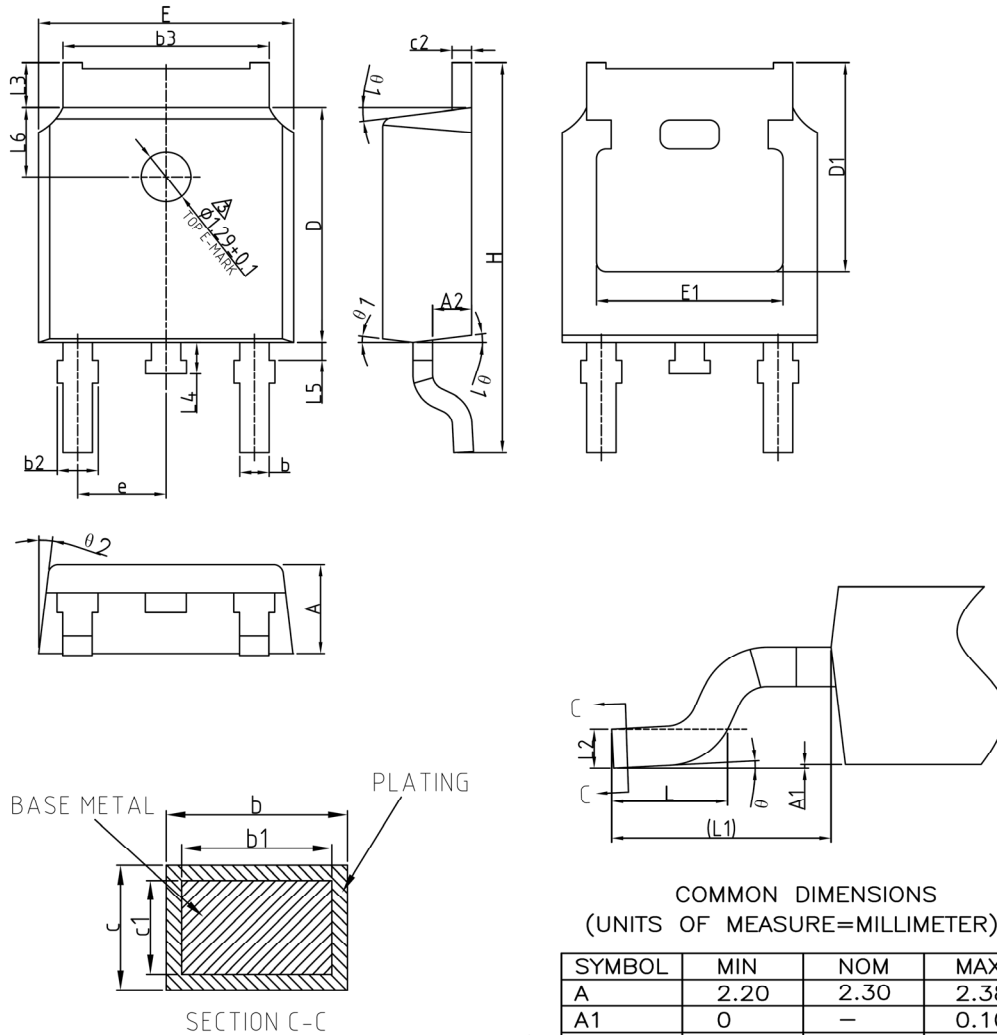


Figure 5 Gate Charge





TO-252 D-PAK Package



NOTES:
 ALL DIMENSIONS REFER TO JEDEC STAND,
 TO-252 AA DO NOT INCLUDE MOLD FLAS
 OR PROTRUSIONS.

COMMON DIMENSIONS
 (UNITS OF MEASURE=MILLIMETER)

SYMBOL	MIN	NOM	MAX
A	2.20	2.30	2.38
A1	0	—	0.10
A2	0.90	1.01	1.10
b	0.72	—	0.85
b1	0.71	0.76	0.81
b2	0.72	—	0.90
b3	5.13	5.33	5.46
c	0.47	—	0.60
c1	0.46	0.51	0.56
c2	0.47	—	0.60
D	6.00	6.10	6.20
D1	5.25	—	—
E	6.50	6.60	6.70
E1	4.70	—	—
e	2.186	2.286	2.386
H	9.80	10.10	10.40
L	1.40	1.50	1.70
L1	2.90REF		
L2	0.51BSC		
L3	0.90	—	1.25
L4	0.60	0.80	1.00
L5	0.15	—	0.75
L6	1.80REF		
θ	0°	—	8°
△ θ 1	5°	7°	9°
△ θ 2	5°	7°	9°

单击下面可查看定价，库存，交付和生命周期等信息

[>>SiliconWisdom\(矽睿半导体\)](#)