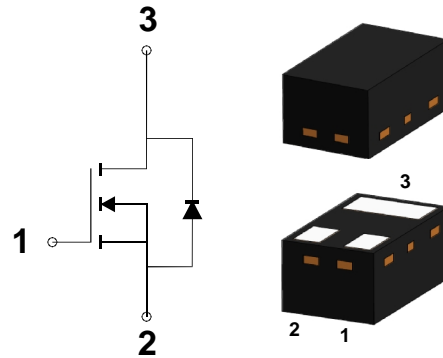


POWER MOSFET WAFER DATASHEET

Feature

- 30V N-Channel MOSFET High Dense Design.
- $R_{DS(ON)} = 300m\Omega(\text{typ.}) @ V_{GS} = 4.5V$
- $R_{DS(ON)} = 400m\Omega(\text{typ.}) @ V_{GS} = 2.5V$
- Reliable and Rugged
- ESD Protected



Applications

- Portable Equipment and Battery Power Systems

SOT-883 (DFN1006-3)

1. Absolute Maximum Ratings ($T_A = 25^\circ\text{C}$ Unless Otherwise Noted)

Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	30	V
V_{GSS}	Gate-Source Voltage	± 12	
I_D	Continue Drain Current	0.75	A
I_{DM}	Pulsed Drain Current	3	
I_S	Diode Continuous Forward Current	0.7	A
T_J	Maximum Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	
$R_{\theta JA}^*$	Thermal Resistance-Junction to Ambient(DFN2x2)	80	$^\circ\text{C/W}$

2. Static Electrical Characteristics (T_A=25°C Unless Otherwise Noted)

Symbol	Parameter	Test Condition	SKA30NC00AE			Unit
			Min.	Typ.	Max.	
Static Characteristics*						
B _V DSS	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250μA	30			V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =24V, V _{GS} =0V T _J =85°C			1 30	μA
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250μA	0.5	0.85	1.2	V
I _{GSS}	Gate Leakage Current	V _{GS} =±10V, V _{DS} =0V			±20	μA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =4.5V, I _{DS} =0.5A V _{GS} =2.5V, I _{DS} =0.5A		300 400	400 600	mΩ
V _{SD}	Diode Forward Voltage	I _{SD} =0.5A, V _{GS} =0V		0.7	1.3	V

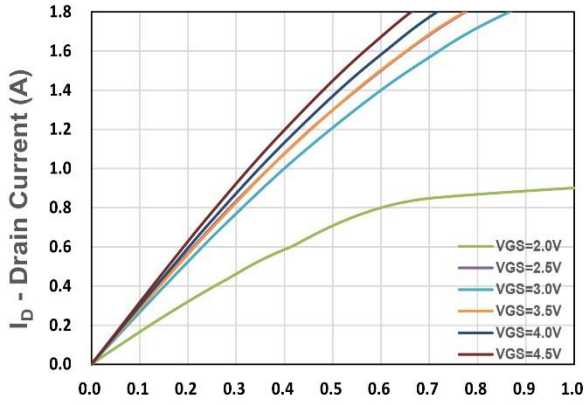
*Note:

a : Current maybe limit by bonding wire.

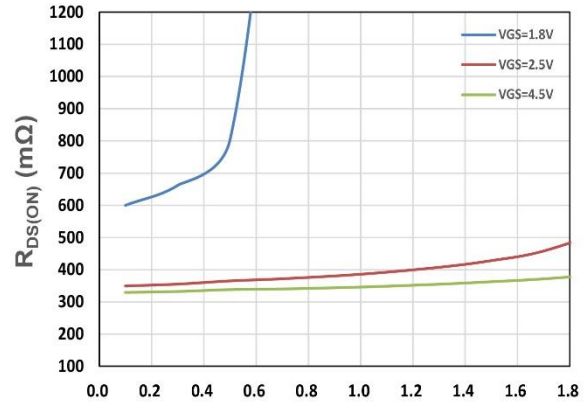
b : The R_{θJC} is the sum of the thermal impedance from junction to ambient and depend on package type.

c : MOS static characteristics test by wafer level(CP).

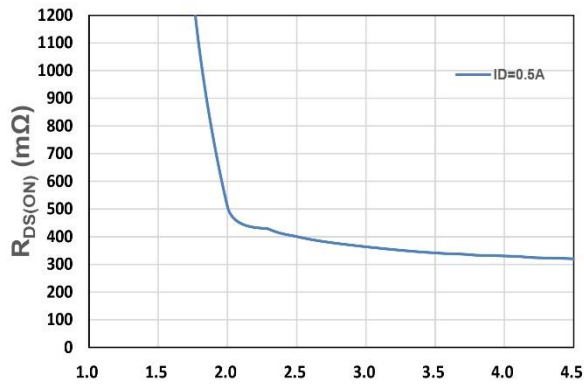
N-Channel Typical Characteristics



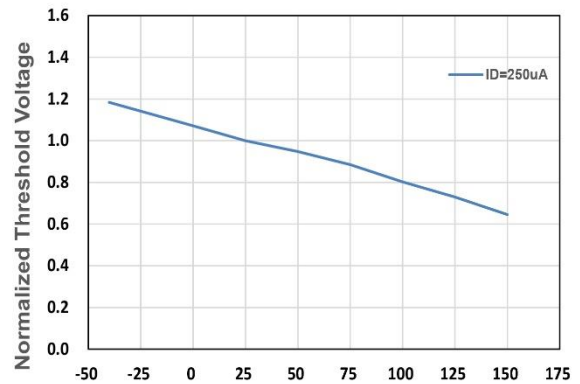
V_{DS} - Drain - Source Voltage (V)
Figure 1. Output Characteristics



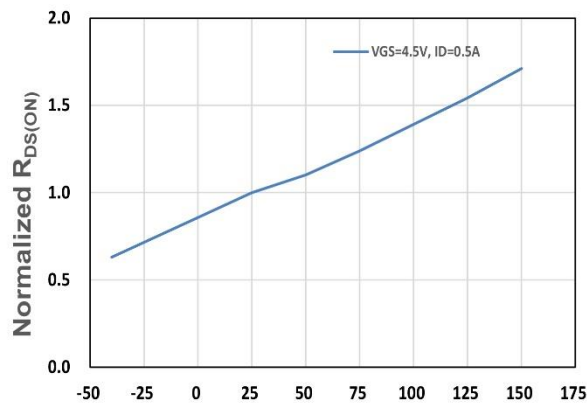
I_D - Drain Current (A)
Figure 2. On-Resistance vs. ID



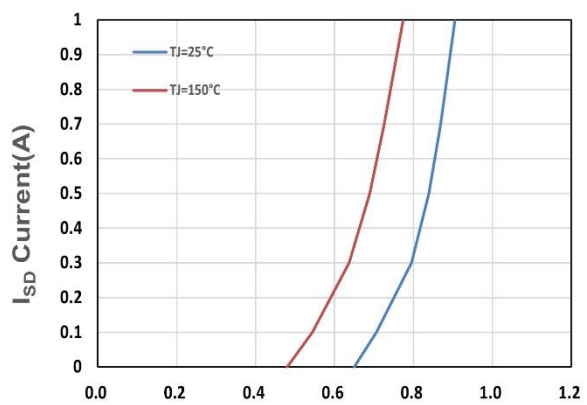
V_{GS} - Gate - Source Voltage (V)
Figure 3. On-Resistance vs. VGS



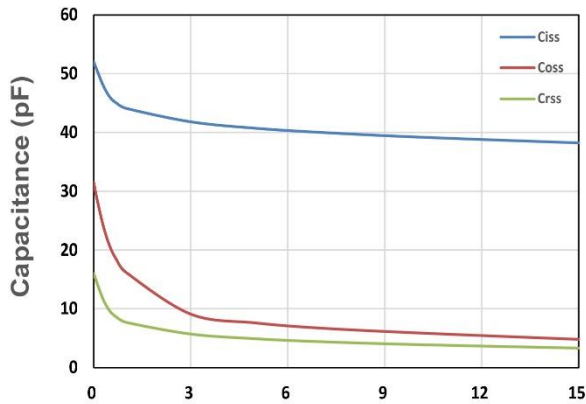
T_j , Junction Temperature(°C)
Figure 4. Gate Threshold Voltage



T_j , Junction Temperature(°C)
Figure 5. Drain-Source On Resistance

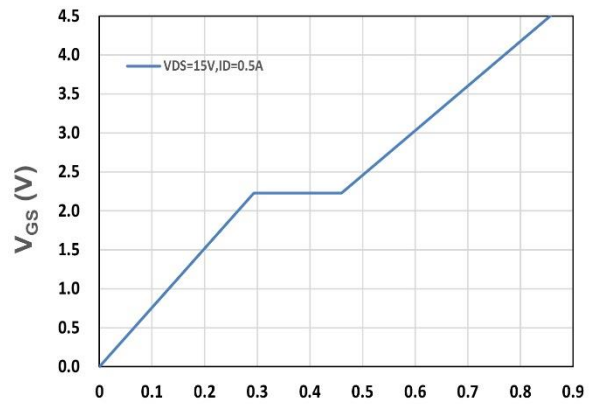


V_{SD} , Source-Drain Voltage(V)
Figure 6. Source-Drain Diode Forward



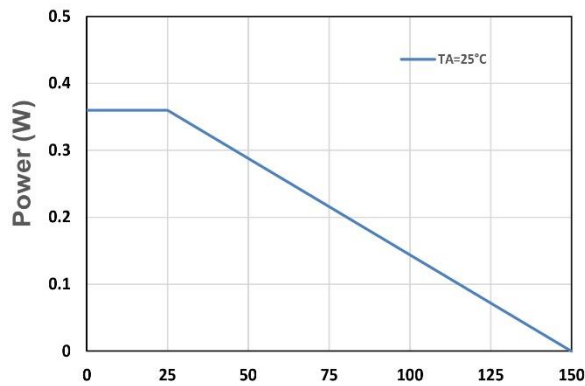
V_{DS} - Drain - Source Voltage (V)

Figure 7. Capacitance



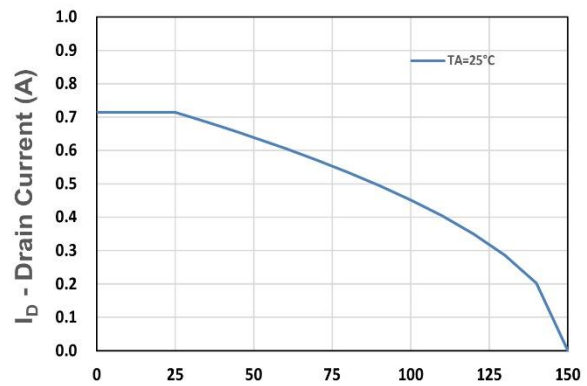
Q_g , Total Gate Charge (nC)

Figure 8. Gate Charge Characteristics



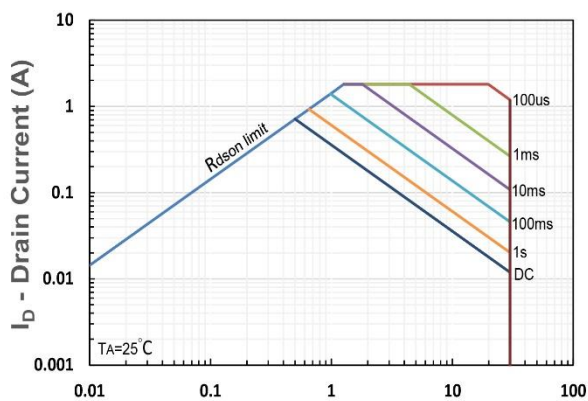
T_A - Junction Temperature ($^{\circ}C$)

Figure 9. Power Dissipation



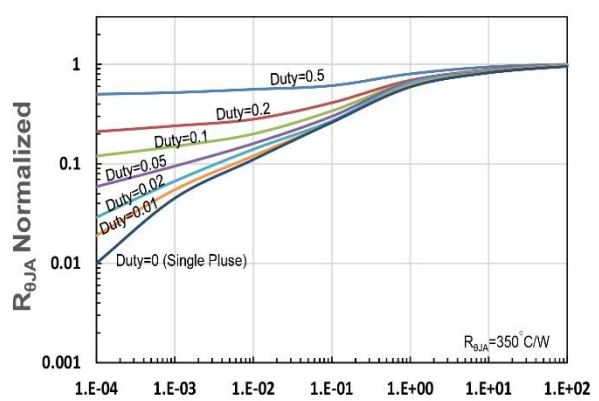
T_A - Junction Temperature ($^{\circ}C$)

Figure 10. Drain Current



V_{DS} - Drain-Source Voltage (V)

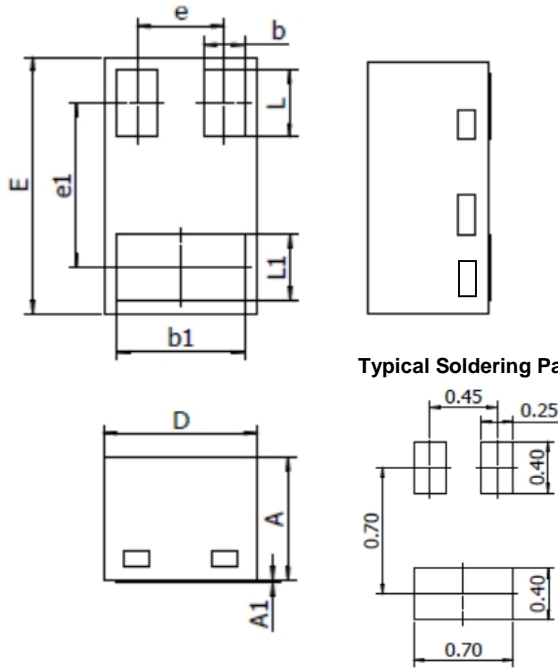
Figure 11. Safe Operating Area



t_1 , Square Wave Pulse Duration (s)

Figure 12. $R_{\theta JA}$ Transient Thermal Impedance

SOT-883 (DFN1006-3) Package Outline



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.46	0.50	0.018	0.020
A1	---	0.03	---	0.001
D	0.55	0.65	0.022	0.026
E	0.95	1.05	0.037	0.041
b	0.12	0.22	0.005	0.008
b1	0.45	0.55	0.018	0.022
L	0.22	0.32	0.008	0.013
L1	0.22	0.32	0.008	0.013
e	Typ. 0.34		Typ. 0.013	
e1	Typ. 0.65		Typ. 0.026	

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