

POWER MOSFET WAFER DATASHEET

Product Summary

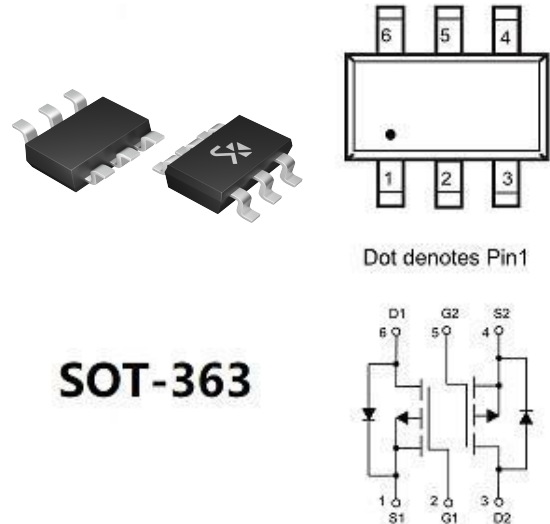
- V_{DS} -60 V
- I_D -0.18 A
- $R_{DS(ON)}$ (at $V_{GS}=-10V$) $<6\ \Omega$
- $R_{DS(ON)}$ (at $V_{GS}=-4.5V$) $<7\ \Omega$

General Description

- Trench Power LV MOSFET technology
- Low $R_{DS(ON)}$
- Low Gate Charge

Applications

- Video monitor
- Power management
- Load Switch



SOT-363

Electrical Characteristics (Wafer Type)

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

Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	-60	V
V_{GSS}	Gate-Source Voltage	± 20	
I_D	Continue Drain Current	-0.18	A
I_{DM}^a	Pulsed Drain Current	-0.45	
I_S	Diode Continuous Forward Current	-0.1	A
T_J	Maximum Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-55 to 150	
$R_{\theta JA}^b$	Thermal Resistance-Junction to Ambient (SOT23)	400	$^\circ\text{C/W}$

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

Symbol	Parameter	Test Condition	SKA60P4K0AE			Unit
			Min.	Typ.	Max.	
Static Characteristics ^c						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =-250μA	-60	-	-	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-48V, V _{GS} =0V	-	-	1	μA
		T _J =85°C	-	-	30	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =-250μA	-1.1	-1.8	-2.5	V
I _{GSS}	Gate Leakage Current	V _{GS} =±20V, V _{DS} =0V	-	-	±10	μA
R _{DS(ON)}	Drain-Source On-state Resistance	V _{GS} =-10V, I _{DS} =-100mA	-	4.0	6.0	Ω
		V _{GS} =-4.5V, I _{DS} =-100mA	-	4.5	7.0	
V _{SD}	Diode Forward Voltage	I _{SD} =-100mA, V _{GS} =0V	-	-0.85	-1.1	V

Note:

a : Current limit by max. junction temperature.

b : The R_{θJA} 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).

P-Channel Typical Characteristics

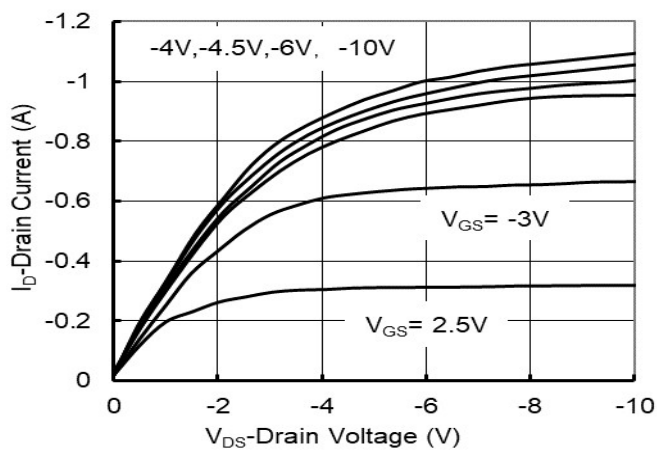


Figure1. Output Characteristics

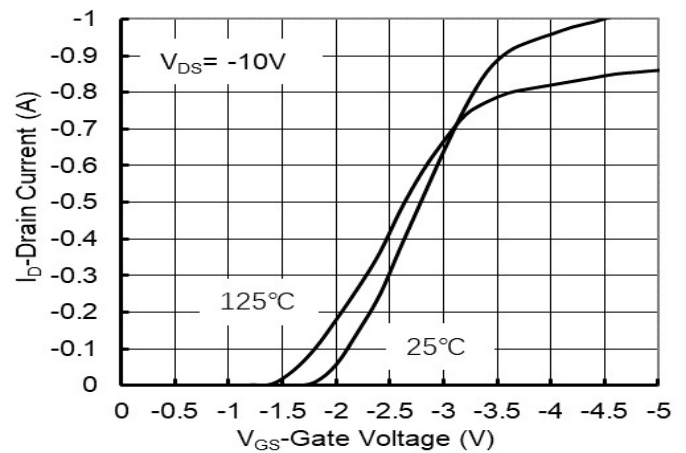


Figure2. Transfer Characteristics

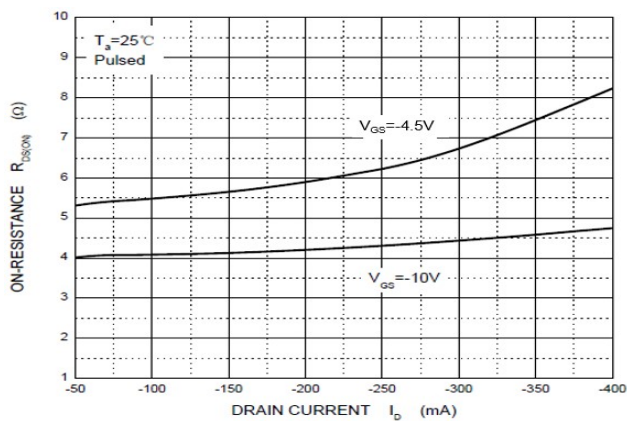


Figure3. Drain-Source on Resistance

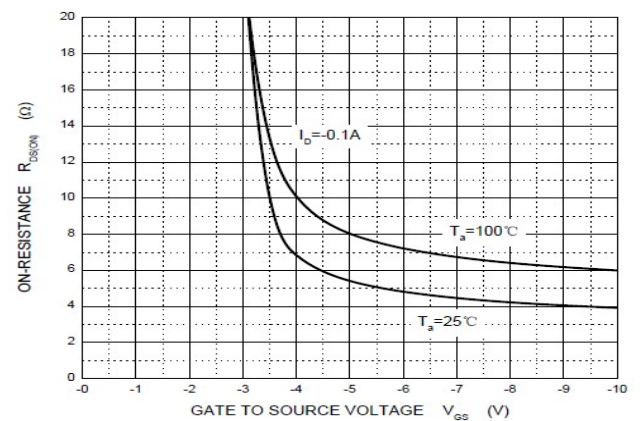


Figure4. Drain-Source on Resistance

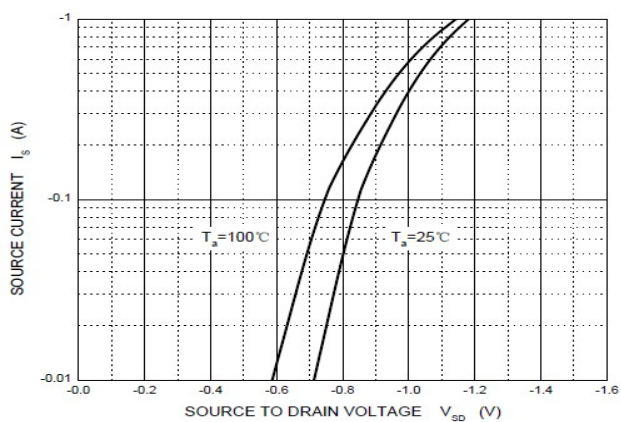


Figure5. Diode Forward Voltage vs. current

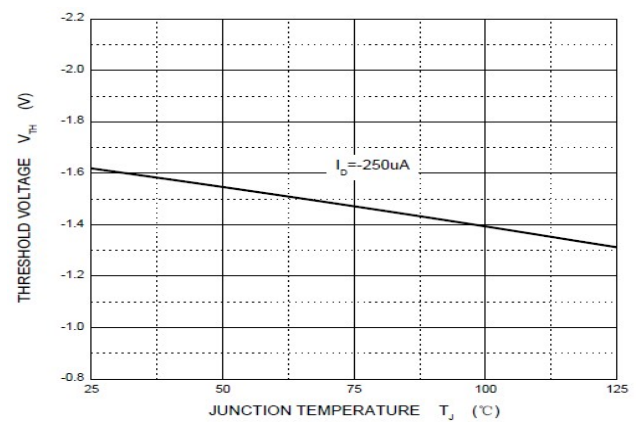
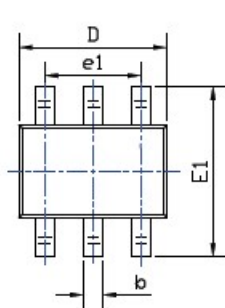
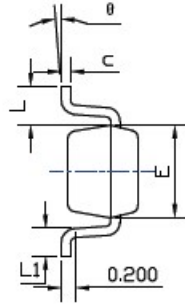


Figure6. Gate Threshold vs. Junction Temperature

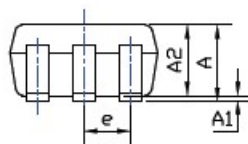
SOT-363 Package Outline Dimensions



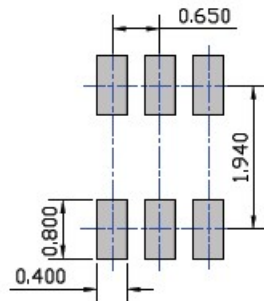
TOP VIEW



SIDE VIEW



SIDE VIEW



UNIT: mm

SUGGESTED SOLDER PAD LAYOUT

SYMBOL	DIMENSIONS					
	INCHES			Millimeter		
	MIN.	NOM.	MAX.	MIN.	NOM.	MAX.
A	0.035	---	0.043	0.900	---	1.100
A1	0.000	---	0.004	0.000	---	0.100
A2	0.035	0.037	0.039	0.900	0.950	1.000
b	0.006	0.010	0.014	0.150	0.250	0.350
c	0.004	---	0.010	0.100	---	0.250
D	0.071	0.079	0.087	1.800	2.000	2.200
E	0.045	0.049	0.053	1.150	1.250	1.350
E1	0.085	0.091	0.096	2.150	2.300	2.450
e	0.026TYP			0.650TYP		
e1	0.047	0.051	0.055	1.200	1.300	1.400
L	0.021REF			0.525REF		
L1	0.010	0.014	0.018	0.260	0.360	0.460
θ	0°	---	8°	0°	---	8°

NOTE:

1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH AND GATE BURRS.
2. TOLERANCE 0.1mm UNLESS OTHERWISE SPECIFIED.
3. THE PAD LAYOUT IS FOR REFERENCE PURPOSES ONLY.