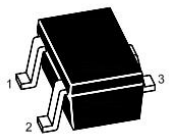
BSS84W

POWER MOSFET WAFER DATASHEET

Feature

- 60V P-Channel MOSFET High Dense Design.
- $R_{DS(ON)}$ =4.0Ω(typ.) @ V_{GS}=-10V
- Reliable and Rugged
- ESD Protected.

SOT-323

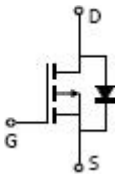


1. GATE
2. SOURCE
3. DRAIN

Applications

- Load Switch

MARKING: PD



Electrical Characteristics (Wafer Type)

1. Absolute Maximum Ratings (T_A=25°C Unless Otherwise Noted)

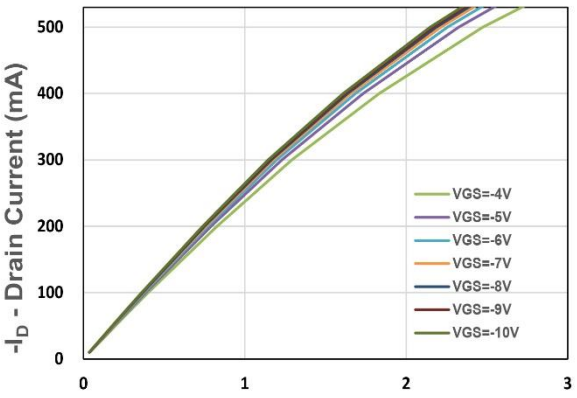
Symbol	Parameter	Rating	Unit
V_{DSS}	Drain-Source Voltage	-60	V
V_{GSS}	Gate-Source Voltage	±20	
I_D	Continue Drain Current	-0.18	A
I_{DM}[a]	Pulsed Drain Current	-0.45	
I_S	Diode Continuous Forward Current	-0.1	A
T_J	Maximum Junction Temperature	150	°C
T_{STG}	Storage Temperature Range	-55 to 150	
$R_{\theta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

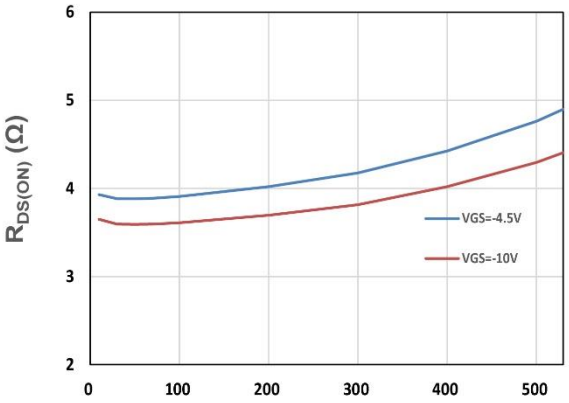
Note:
a : Current limit by max. junction temperature.
b : The $R_{\Theta JA}$ is the sum of the thermal impedance from junction to ambient and depend on package type.
c : MOS static characteristics test by wafer level(CP).

P-Channel Typical Characteristics



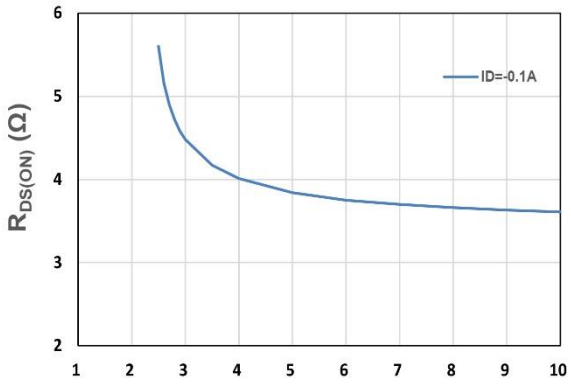
-V_{DS} - Drain - Source Voltage (V)

Figure 1. Output Characteristics



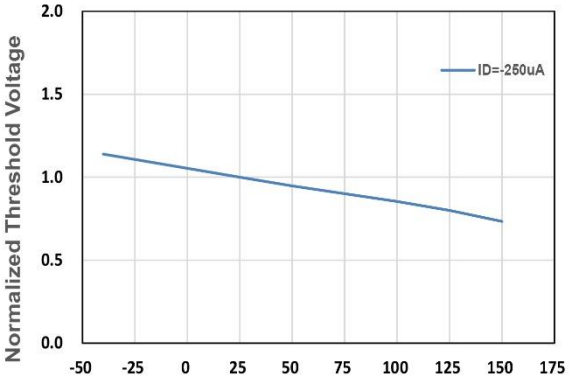
-I_D- Drain Current (mA)

Figure 2. On-Resistance vs. ID



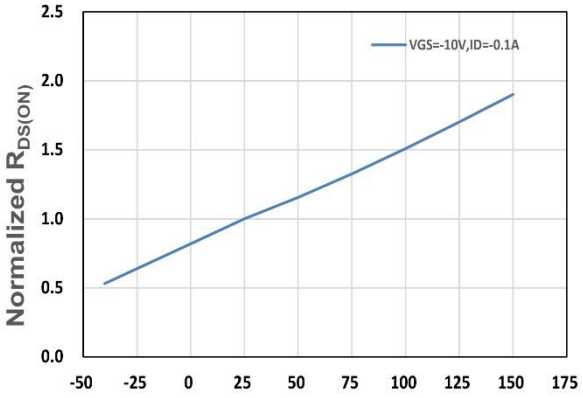
-V_{GS} - Gate - Source Voltage (V)

Figure 3. On-Resistance vs. VGS



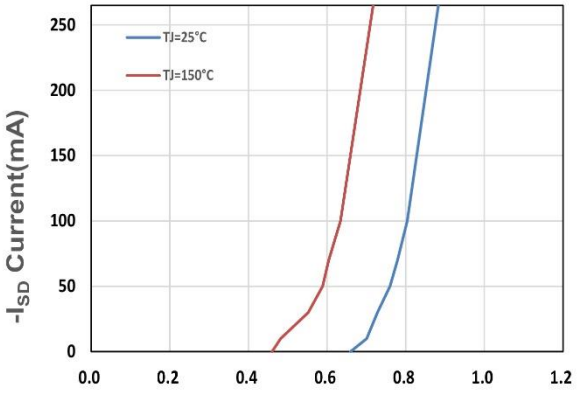
Tj, Junction Temperature(°C)

Figure 4. Gate Threshold Voltage



Tj , Junction Temperature(°C)

Figure 5. Drain-Source On Resistance



-V_{SD}, Source-Drain Voltage(V)

Figure 6. Source-Drain Diode Forward

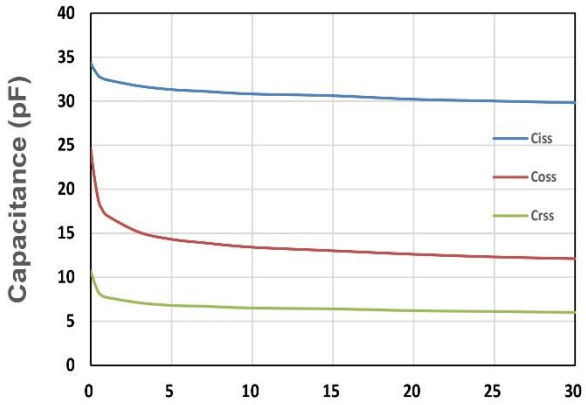


Figure 7. Capacitance

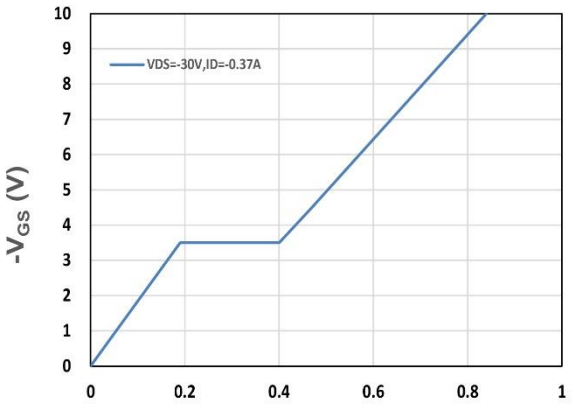


Figure 8. Gate Charge Characteristics

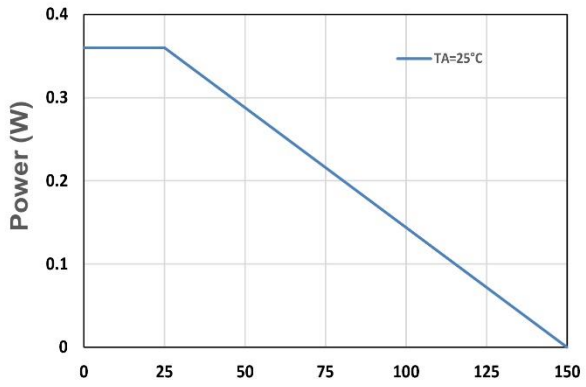


Figure 9. Power Dissipation

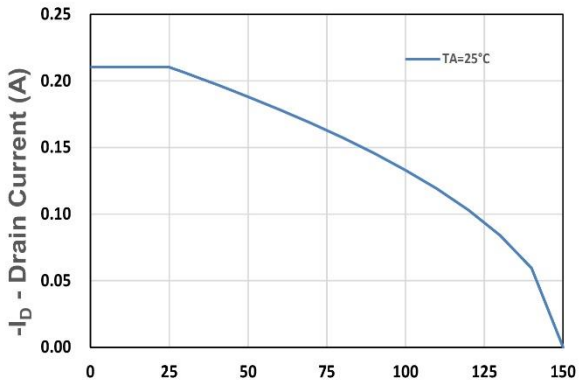


Figure 10. Drain Current

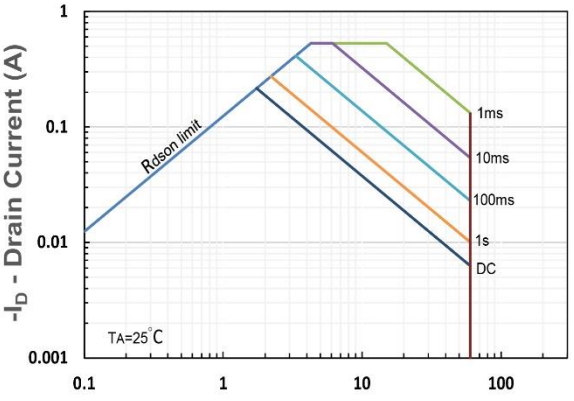


Figure 11. Safe Operating Area

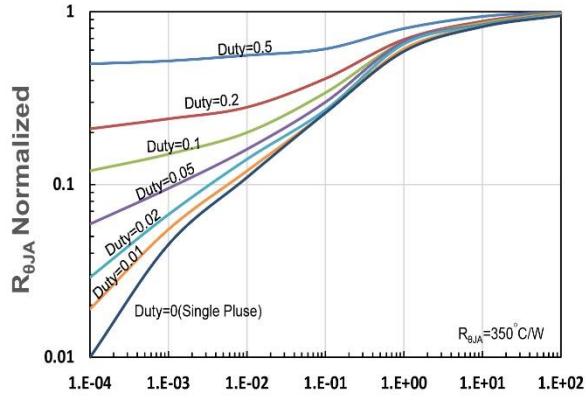
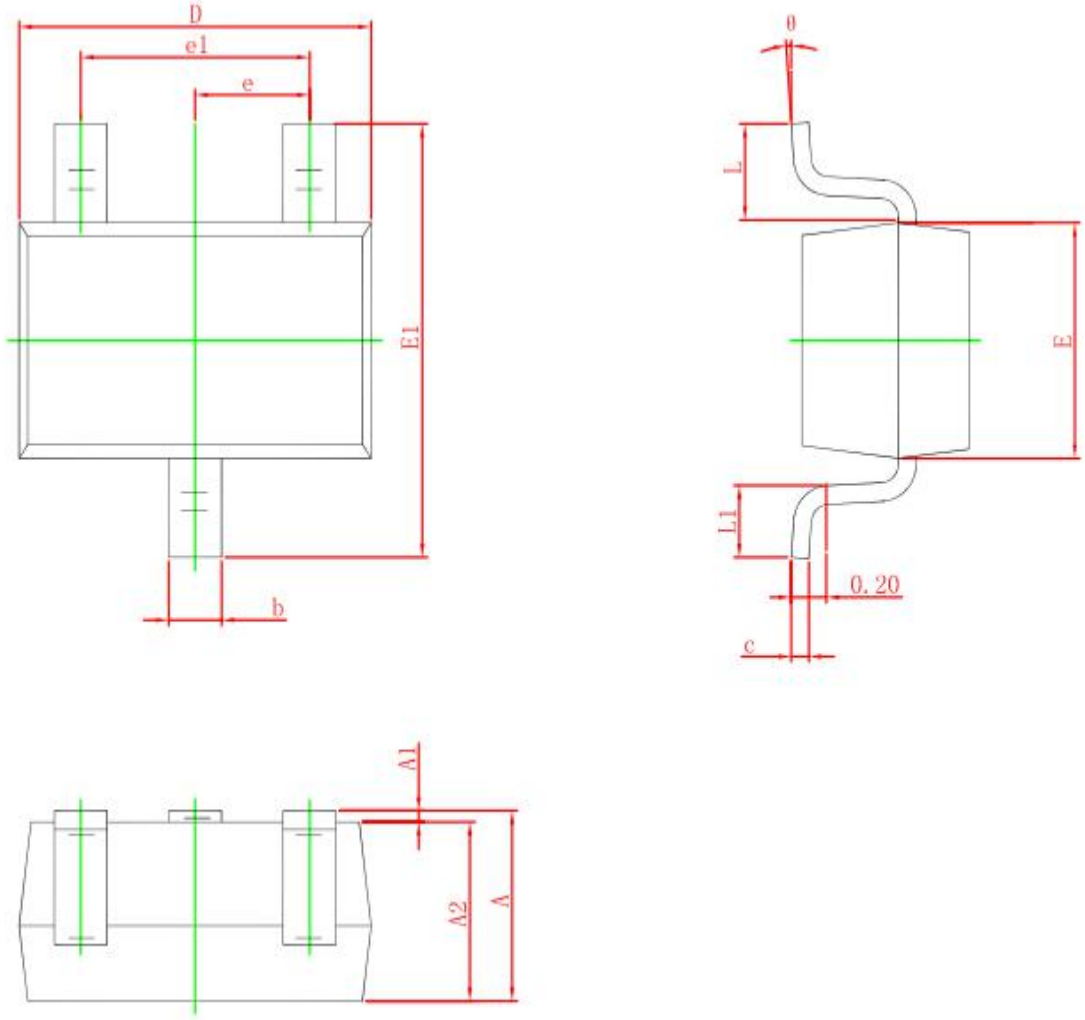


Figure 12. RθJA Transient Thermal Impedance

SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP.		0.026 TYP.	
e1	1.200	1.400	0.047	0.055
L	0.525 REF.		0.021 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

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