

2SK3065B

60V, 39mΩ typ., 6A N-Channel MOSFET

General Description

The 2SK3065B uses advanced trench technology to provide excellent RDS(ON). This device is suitable for use as a Battery protection or in other Switching application.

Features

- RDS(ON)<45mΩ @ VGS=10V
- RDS(ON)<55mΩ @ VGS=4.5V
- Fast Switching
- RoHS Compliant

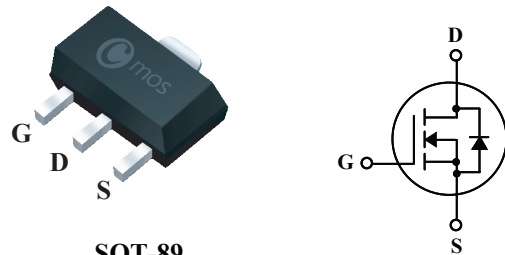
Product Summary

BVDSS	R _{DS(on)} max.	ID
60V	45mΩ	6A

Applications

- DC/DC Converter
- Battery Switch

SOT-89 Pin Configuration



SOT-89
2SK3065B

Type	Package	Marking
2SK3065B	SOT-89	KEB

Absolute Maximum Ratings

Symbol	Parameter	Rating	Units
V _{DS}	Drain-Source Voltage	60	V
V _{GS}	Gate-Source Voltage	±20	V
I _D	Continuous Drain Current	6	A
I _{DM}	Pulsed Drain Current	18	A
P _{D@T_A=25°C}	Total Power Dissipation	1	W
T _{STG}	Storage Temperature Range	150	°C
T _J	Operating Junction Temperature Range	-55 to 150	°C

Thermal Data

Symbol	Parameter	Typ.	Max.	Unit
R _{θJA}	Thermal Resistance Junction-ambient	---	125	°C/W

Electrical Characteristics (T_J=25°C , unless otherwise noted)

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V , I _D =250uA	60	---	---	V
R _{DS(ON)}	Static Drain-Source On-Resistance	V _{GS} =10V , I _D =5A	---	39	45	mΩ
		V _{GS} =4.5V , I _D =4.5A	---	44	55	
V _{GS(th)}	Gate Threshold Voltage	V _{GS} =V _{DS} , I _D =250uA	1	---	2.5	V
I _{DSS}	Drain-Source Leakage Current	V _{DS} =48V , V _{GS} =0V , T _J =25°C	---	---	1	uA
I _{GSS}	Gate-Source Leakage Current	V _{GS} =±20V , V _{DS} =0V	---	---	±100	nA
g _{fs}	Forward Transconductance	V _{DS} =5V , I _D =3A	---	5	---	S
R _g	Gate Resistance	V _{DS} =0V , V _{GS} =0V , f=1MHz	---	1.5	---	Ω
Q _g	Total Gate Charge	V _{DS} =30V , V _{GS} =10V , I _D =6A	---	15	---	nC
Q _{gs}	Gate-Source Charge		---	3.3	---	
Q _{gd}	Gate-Drain Charge		---	3.6	---	
T _{d(on)}	Turn-On Delay Time	V _{DS} =30V , V _{GS} =10V , R _G =50Ω I _D =6A	---	10	---	ns
T _r	Rise Time		---	35	---	
T _{d(off)}	Turn-Off Delay Time		---	60	---	
T _f	Fall Time		---	48	---	
C _{iss}	Input Capacitance	V _{DS} =25V , V _{GS} =0V , f=1MHz	---	660	---	pF
C _{oss}	Output Capacitance		---	40	---	
C _{riss}	Reverse Transfer Capacitance		---	30	---	

Diode Characteristics

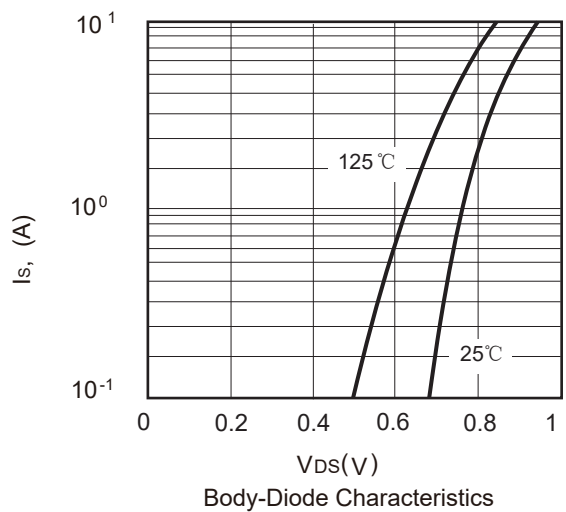
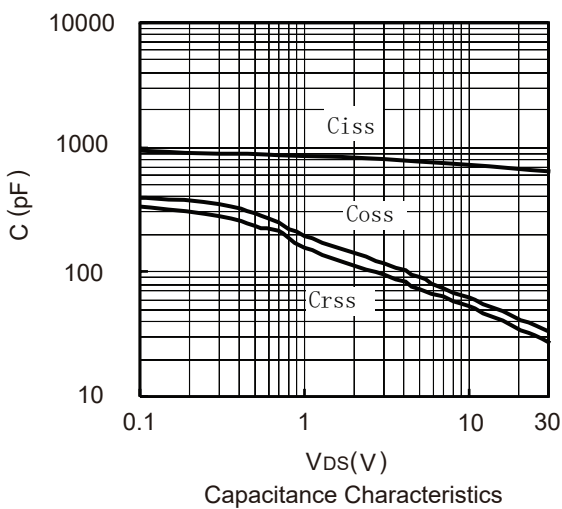
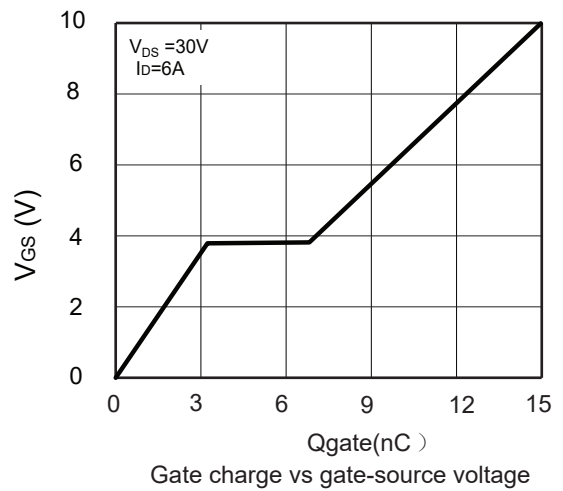
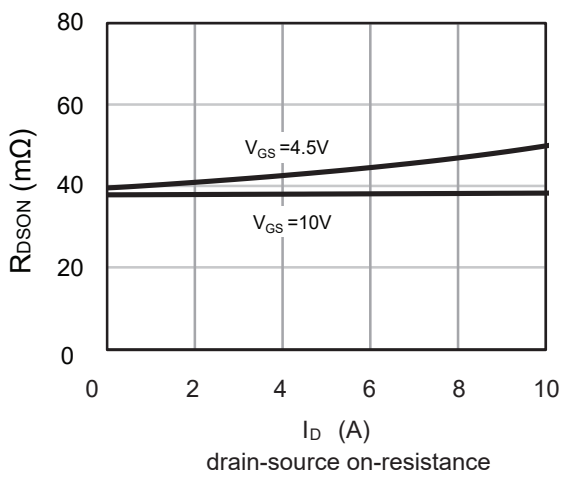
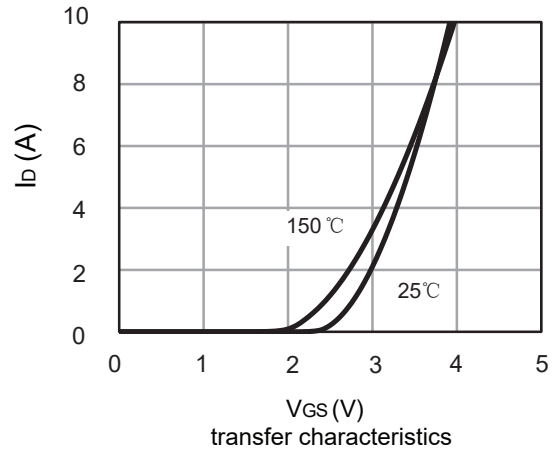
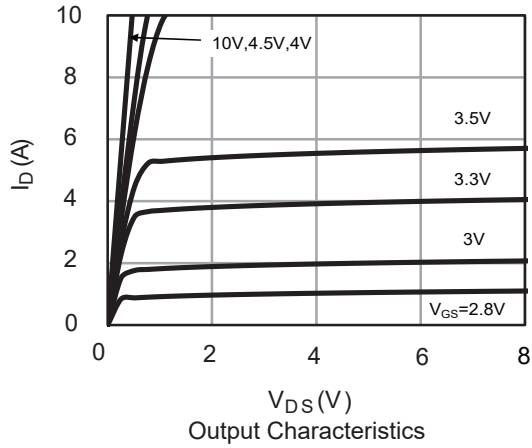
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _{SD}	Diode Forward Voltage	V _{GS} =0V , I _S =2A	---	0.79	1.2	V

This product has been designed and qualified for the consumer market.

Cmos assumes no liability for customers' product design or applications.

Cmos reserves the right to improve product design ,functions and reliability without notice.Please refer to the latest version of specification.

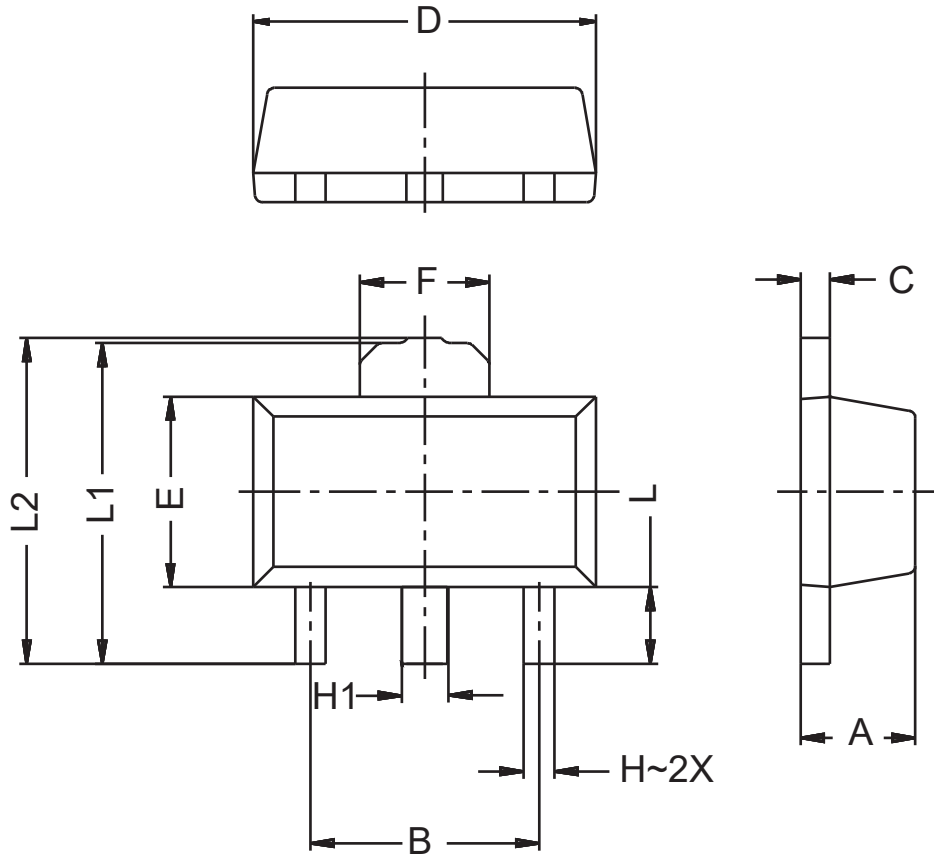
Typical Characteristics



Package Dimension

SOT-89

Unit :mm



Symbol	Dim in mm		
	Min	Nor	Max
A	1.45	1.50	1.55
B	2.95	3.00	3.05
C	0.37	0.38	0.40
D	4.45	4.50	4.55
E	2.45	2.50	2.55
F	1.65	1.70	1.75
H	0.37	0.40	0.48
H1	0.45	0.48	0.58
L	0.95	1.00	1.05
L1	4.15	4.20	4.25
L2	4.17	4.27	4.37