BSS84KDW

60V P-Channel MOSFET

Product Summary

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
-60V	6Ω@-10V	-0.13A
	7Ω@-4.5V	

Feature

- Energy Efficient
- Low Threshold Voltage
- High-speed Switching
- Miniature Surface Mount Package Saves Board Space
- ESD Protected

Application

- DC−DC converters
- load switching
- power management in portable
- battery−powered products
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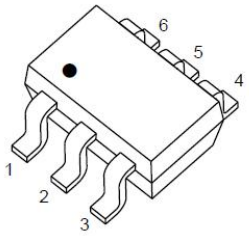
Package



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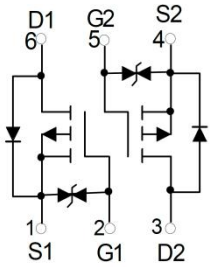
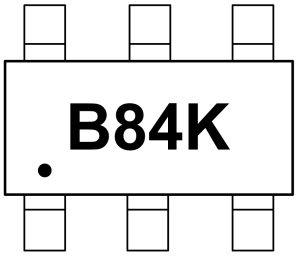
Circuit diagram



Marking



B84K =Device Code

Absolute maximum ratings (Ta=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	-60	V
Gate-Source Voltage	V_{GS}	±20	V
Continuous Drain Current	I_D	-0.13	A
Plused Drain Current(1)@tp<10μs	I_{DM}	-0.52	A
Power Dissipation	P_D	200	mW
Thermal Resistance from Junction to Ambient(2)	$R_{\theta JA}$	625	℃/W
Junction Temperature	T_J	150	℃
Storage Temperature	T_{STG}	-55~ +150	℃

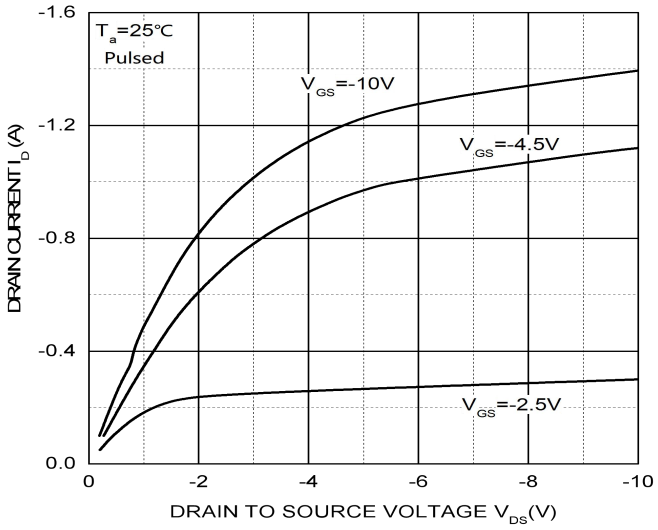
Electrical characteristics (T_A=25 ºC, unless otherwise noted)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-source breakdown voltage	$V_{(BR)DSS}$	V_{GS} = 0V, I_D =-250μA	-60			V
Drain Leakage Current	I_{DSS}	V_{DS} =-48V,V_{GS} = 0V			-1	μA
Gate-body leakage current	I_{GSS}	V_{GS} =±20V, V_{DS} = 0V			±10	μA
Gate threshold voltage3)	$V_{GS(th)}$	V_{DS} =V_{GS}, I_D =-250μA	-0.8	-1.5	-2.5	V
Drain-source on-resistance3)	$R_{DS(on)}$	V_{GS} =-10V, I_D =-0.5A		2.2	6	Ω
		V_{GS} =-4.5V, I_D =-0.2A		2.5	7	
Dynamic characteristics4)						
Input Capacitance	C_{iss}	V_{DS} =-5V,V_{GS} =0V,f =1MHz		30		pF
Output Capacitance	C_{oss}			10		
Reverse Transfer Capacitance	C_{rss}			5		
Switching characteristics4)						
Turn-on delay time	$t_{d(on)}$	V_{DD}=-15V, R_L=50Ω,I_D=-2.5A		2.5		ns
Turn-on rise time	t_r			1		
Turn-off delay time	$t_{d(off)}$			16		
Turn-off fall time	t_f			8		
Source-Drain Diode characteristics						
Diode Forward voltage	V_{SD}	V_{GS} =0V, I_S=-0.5A			-1.3	V

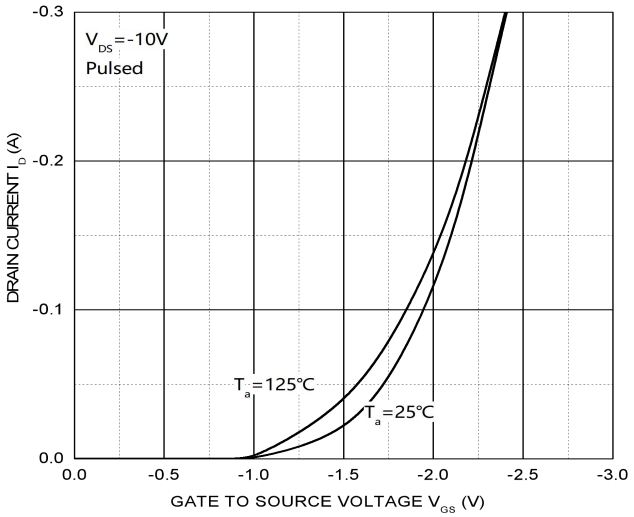
Notes:

1. Repetitive rating: Pulse width limited by junction temperature.
2. Surface mounted on FR4 board, t≤10s.
3. Pulse Test: Pulse Width≤300μs, Duty Cycle≤2%.
4. Guaranteed by design, not subject to production.

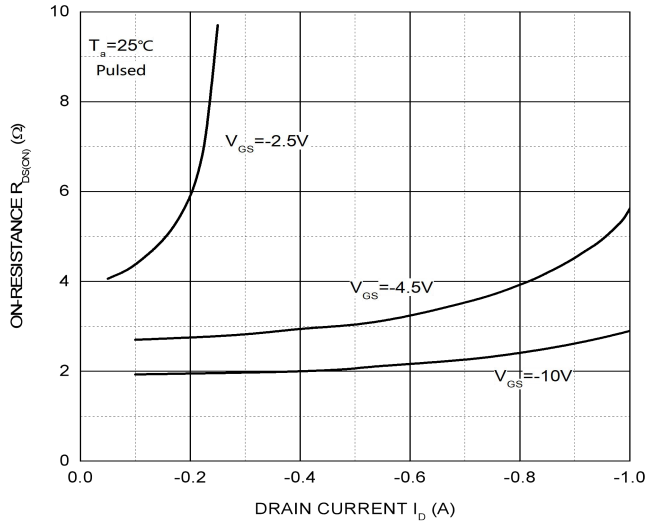
Typical Characteristics



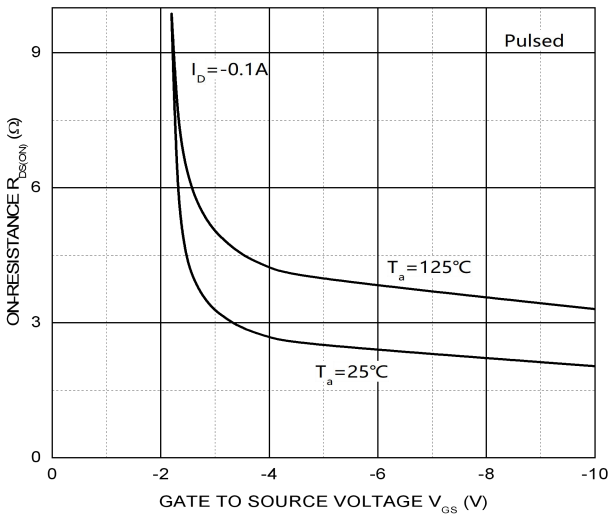
Output Characteristics



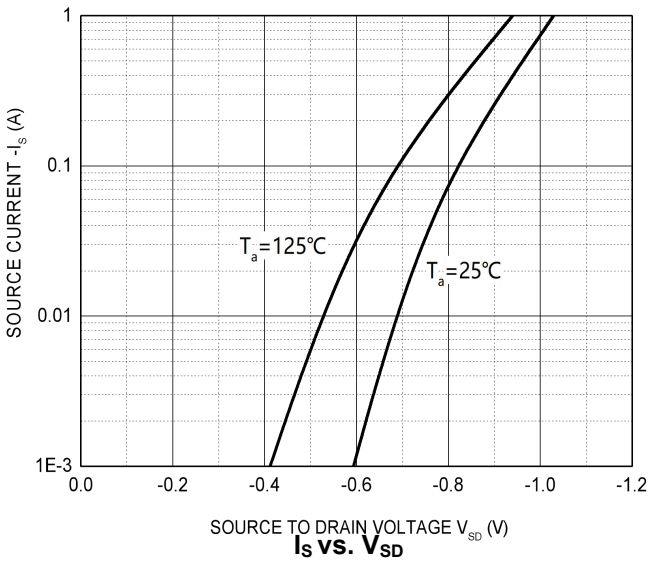
Transfer Characteristics



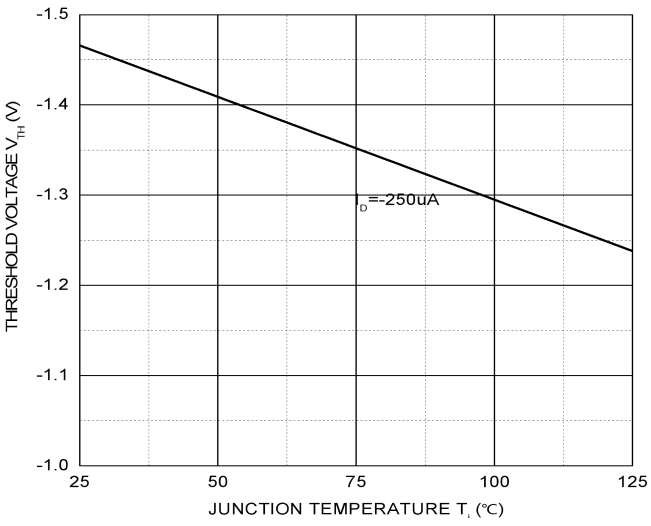
$R_{DS(ON)}$ vs. I_D



$R_{DS(ON)}$ vs. V_{GS}

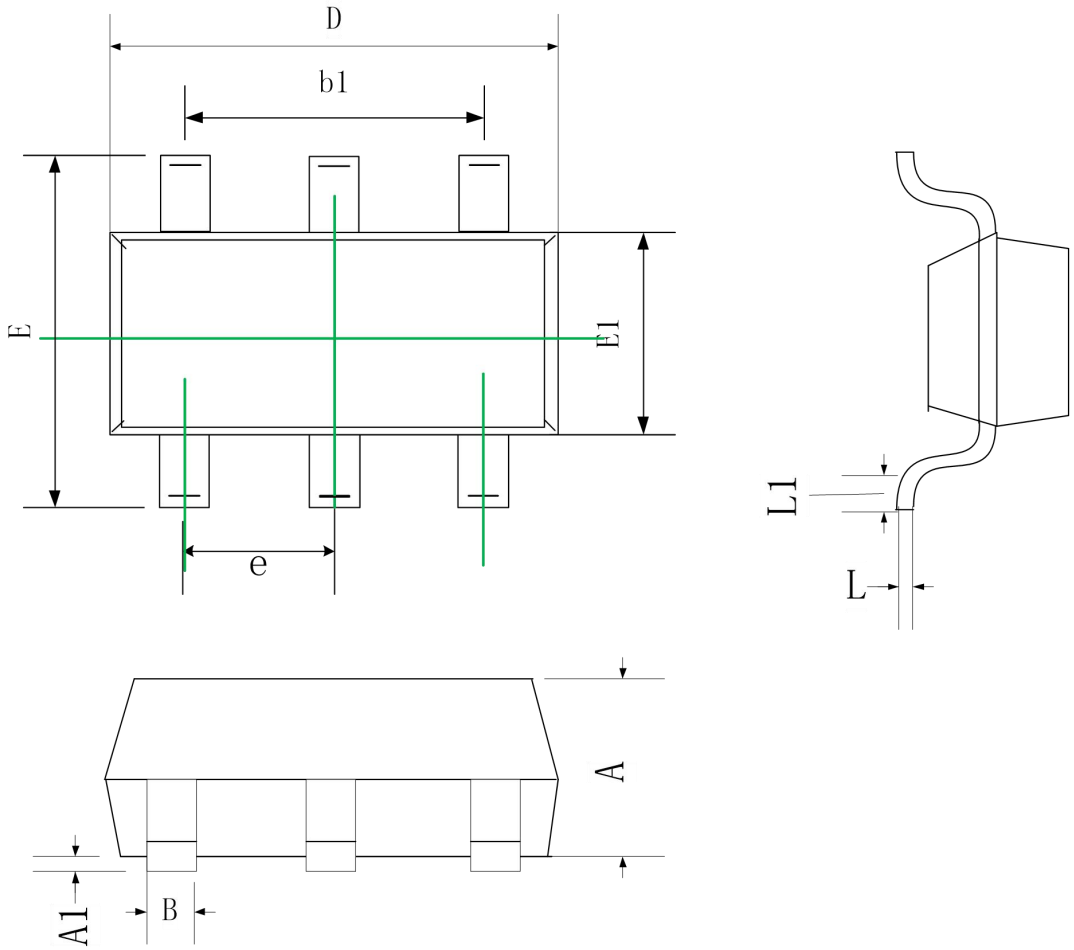


I_S vs. V_{SD}



Threshold Voltage

SOT-363 Package Information



Symbol	Dimensions In Millimeters	
	Min.	Max.
A	0.90	1.00
A1	0.00	0.10
B	0.10	0.30
b1	1.30	
D	1.80	2.20
E	2.00	2.20
E1	1.15	1.35
e	0.65 TYP.	
L	0.10	0.25
L1	0.15	0.4