

Product Summary

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

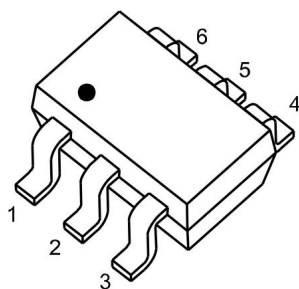
Feature

- High power and current handing capability
- Surface mount package
- ESD Protected

Application

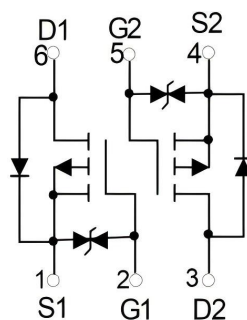
- Battery Switch
- DC/DC Converter

Package

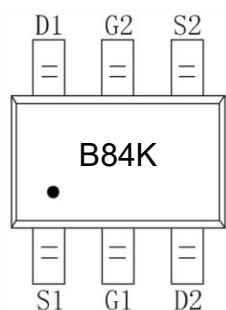


SOT-363

Circuit diagram



Marking



Absolute maximum ratings ($T_A=25^{\circ}\text{C}$ 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
Pulsed Drain Current	I_{DM}	-0.52	A
Power Dissipation	P_D	0.32	W
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	390	$^{\circ}\text{C/W}$
Operating Junction Temperature	T_J	$-55 \sim +150$	$^{\circ}\text{C}$
Storage Temperature	T_{STG}	$-55 \sim +150$	$^{\circ}\text{C}$

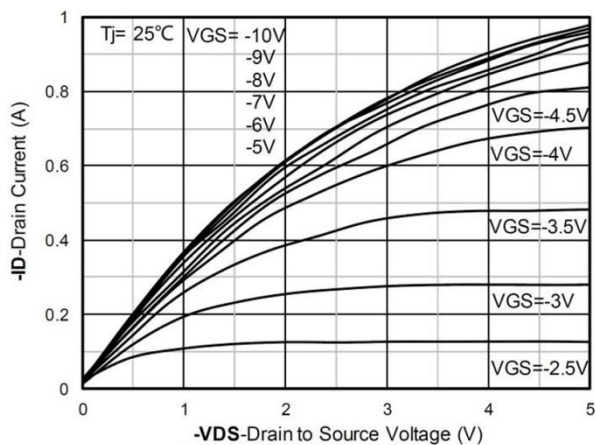
Electrical characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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
Zero gate voltage drain current	I _{DSS}	V _{DS} =-48V, V _{GS} =0V			-1	μA
Gate-body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±10	uA
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.8	-1.5	-2.5	V
Drain-source on-resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-0.15A		4.2	6	Ω
		V _{GS} =-4.5V, I _D =-0.15A		4.5	7	
Dynamic characteristics ¹⁾						
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		
Total Gate Charge	Q _g	V _{DS} =-30V, V _{GS} =-10V I _D =-0.15A		1.8		nC
Gate-Source Charge	Q _{gs}			0.5		
Gate-Drain Charge	Q _{gd}			0.18		
Turn-on delay time	t _{d(on)}	V _{DS} =-15V, V _{GS} =-10V I _D =-0.15A, R _G =50Ω		8.6		nS
Turn-on rise time	t _r			20		
Turn-off delay time	t _{d(off)}			14		
Turn-off fall time	t _f			77		
Source-Drain Diode characteristics						
Diode Forward Current	I _S				-0.13	A
Diode Forward voltage	V _{SD}	V _{GS} =0V, I _S =-1A, T _J =25°C			-1.2	V

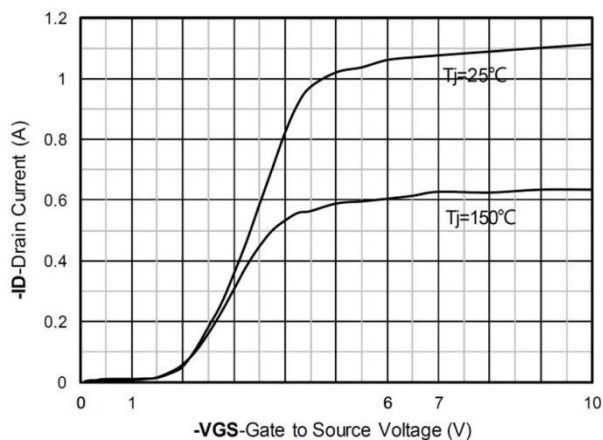
Notes:

1) Guaranteed by design, not subject to production.

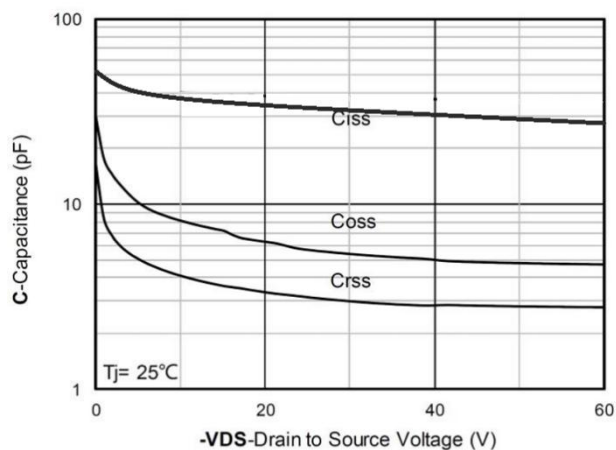
Typical Characteristics



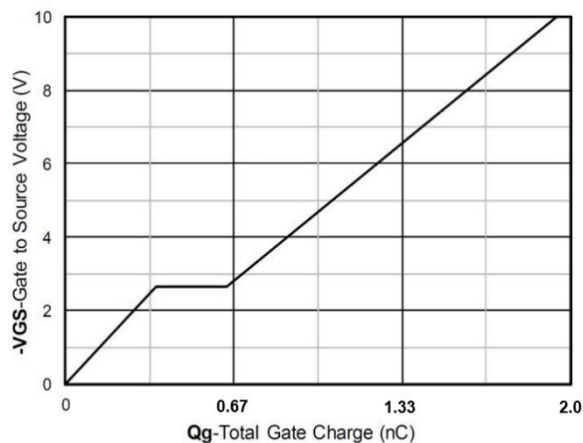
Output Characteristics



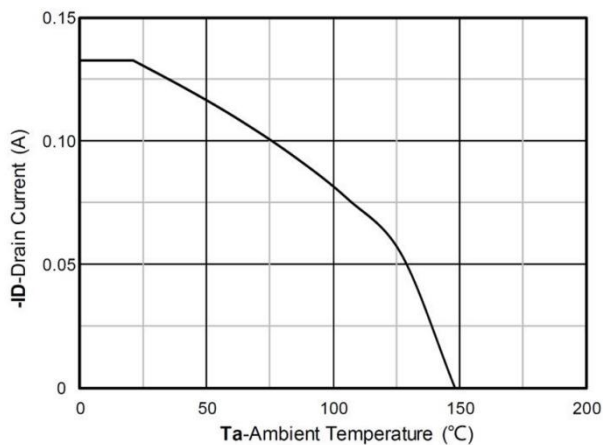
Transfer Characteristics



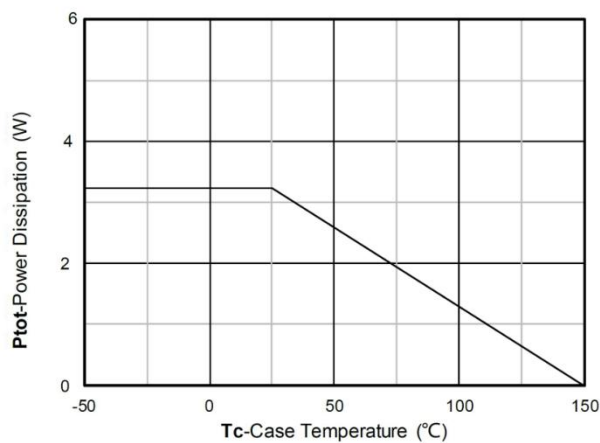
Capacitance Characteristics



Gate Charge

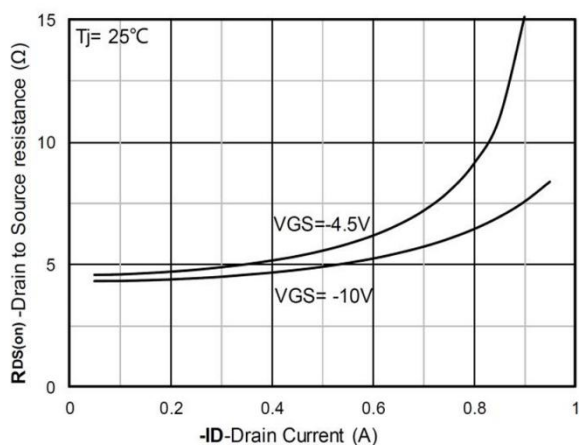


Current dissipation

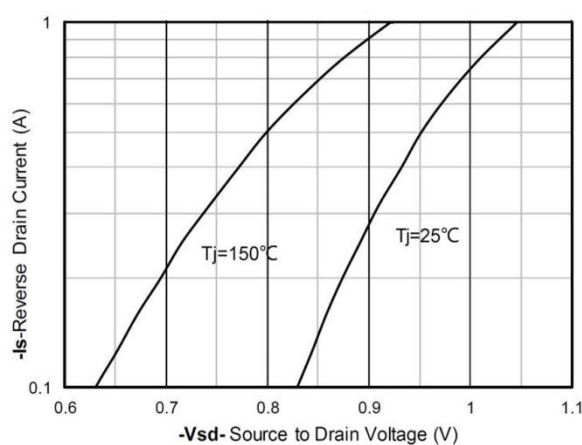


Power dissipation

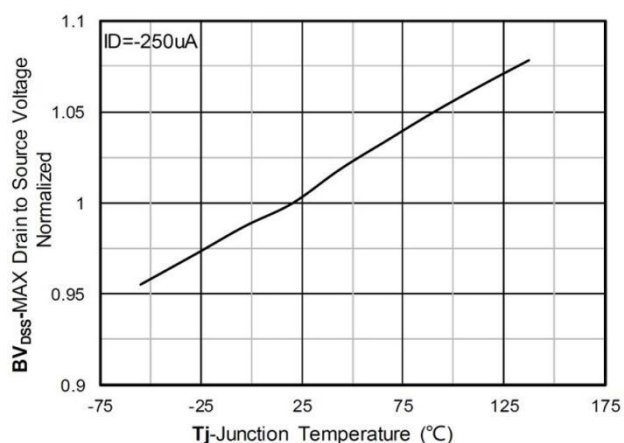
Typical Characteristics



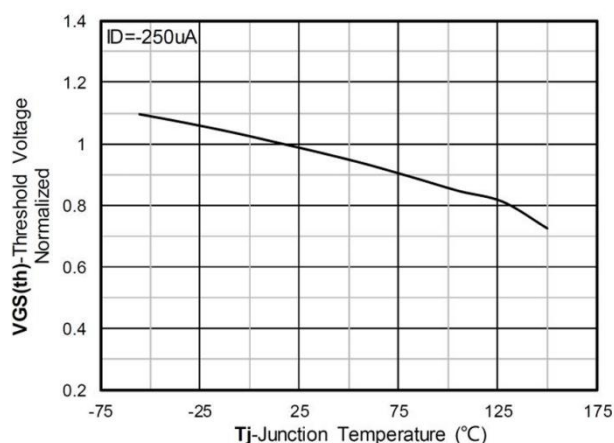
$R_{DS(on)}$ VS Drain Current



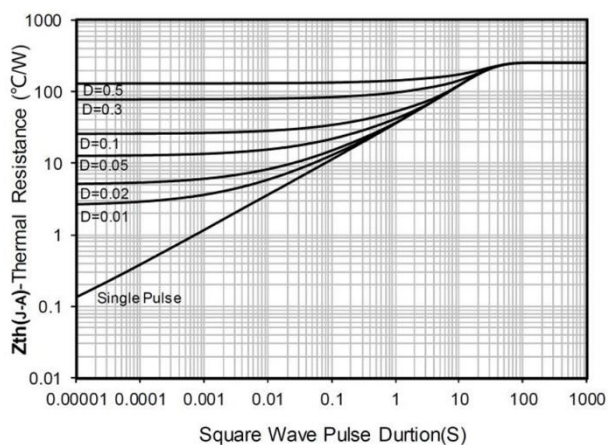
Forward characteristics of reverse diode



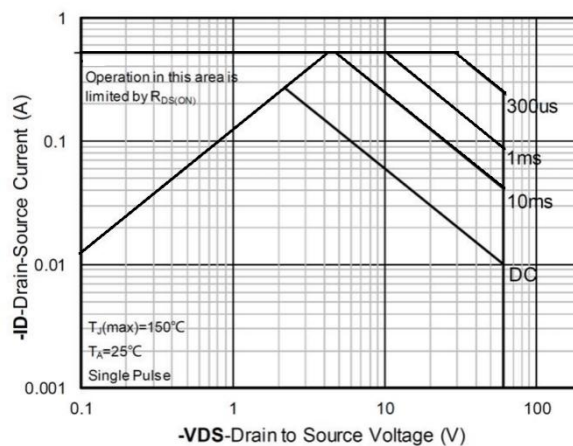
Normalized breakdown voltage



Normalized Threshold voltage

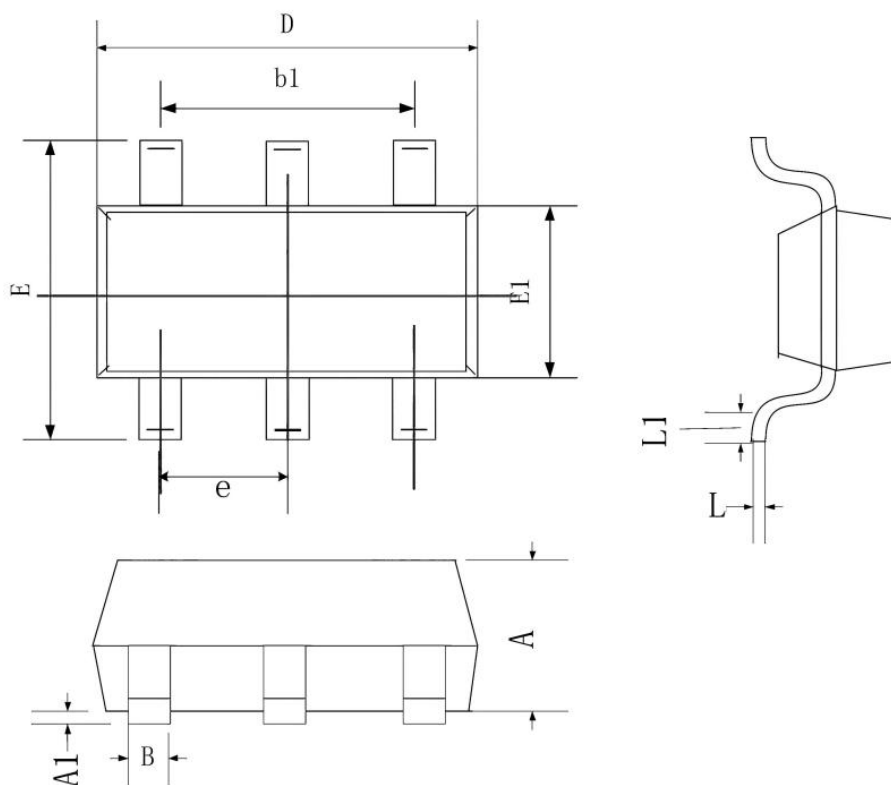


Maximum Transient Thermal Impedance



Safe Operation Area

SOT-363 Package Information



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.000	0.035	0.039
A1	0.000	0.100	0.000	0.004
B	0.150	0.350	0.006	0.014
b1	1.300 TYP.		0.051 TYP.	
D	1.800	2.200	0.071	0.087
E	2.000	2.200	0.079	0.087
E1	1.150	1.350	0.045	0.053
e	0.650 TYP.		0.026 TYP.	
L	0.100	0.250	0.004	0.010
L1	0.150	0.400	0.006	0.016