

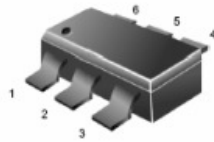
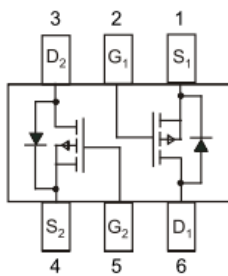
P-Channel -50V MOSFET

Features:

- Surface-mounted package
- Voltage controlled p-channel small signal switch
- Reduce power loss conserve energy
- Halogen free

Application

- DC-DC converters
- Energy efficient
- Power management in portable and battery-powered product.



$B_{VDSS} = -50V$,
 $R_{DS(ON)} \leq 10\Omega @ V_{GS} = -5V$
 $I_D = -130mA$

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

Parameter	Symbol	BSS84DW	Unit	
	Marking	PD		
Drain-Source Voltage	V _{DSS}	-50	V	
Gate-Source Voltage	V _{GS}	±20	V	
Continuous Drain Current@T _a =25°C	I _D	-130	mA	
Pulsed Drain Current(t _p ≤ 10us)	I _{DM}	-520	mA	
Power Dissipation	T _a =25°C	P _D	380	mW
Operating Junction and Storage Temperature Range	T _J , T _{stg}	-55 to 150	°C	

Thermal Characteristics

Symbol	Characteristic	Typ.	Max.	Units
R _{θJA}	Junction-to-Ambient	---	328	°C/W

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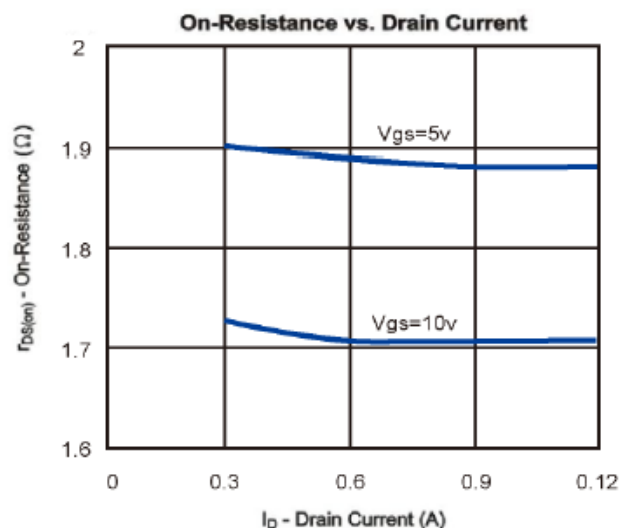
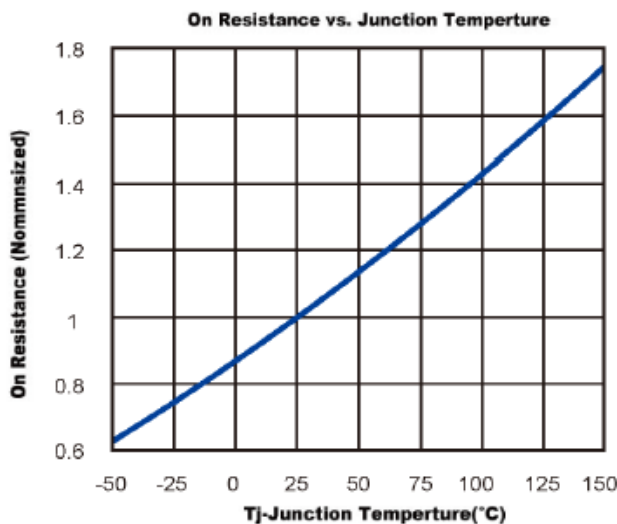
Electrical Characteristics (TA =25°C Unless Otherwise Specified)

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Unit
Static ⁽¹⁾						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _D =-250μA	-50	--	--	V
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _D =-250μA	-0.8	--	-2	V
I _{GSS}	Gate-Body Leakage	V _{DS} =0V, V _{GS} =±20V	--	--	±100	nA
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =-50V, V _{GS} =0V	--	--	-15	μA
R _{DS(ON)}	Drain-Source On-Resistance	V _{GS} =-5 V, I _D =-100mA	--	8	10	Ω
Dynamic ⁽²⁾						
C _{iss}	Input Capacitance	V _{DS} =-5V, V _{GS} =0V, f =1.0MHz	--	35	--	pF
C _{oss}	Output Capacitance		--	14	--	
C _{rss}	Reverse Transfer Capacitance		--	6	--	
t _{d(on)}	Turn-On Delay Time	V _{DD} =-15V, I _D =-0.25A _{dc} , V _{GS} =10V _{dc} , R _{GEN} =25Ω, R _L =50Ω	--	1	--	ns
t _r	Turn-On Rise Time		--	20	--	
t _{d(off)}	Turn-Off Delay Time		--	12	--	
t _f	Turn-Off Fall Time		--	23	--	
Q _T	Gate Charge	V _{DS} =-40V, V _{GS} =-10V, I _D =-1A	--	2	--	nC
Source-Drain Diode Ratings and Characteristics						
V _{SD}	Diode Forward voltage ⁽²⁾	I _S =130mA	--	--	-2.2	V

Notes :

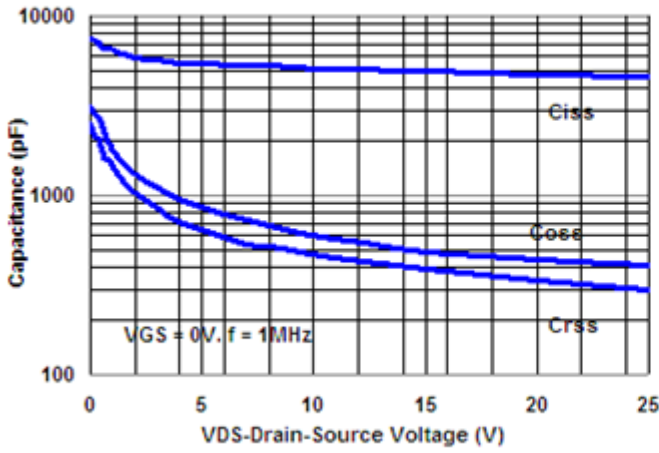
- (1) Pulse test : pulse width ≤ 300us, duty cycle ≤ 2%
- (2) Switching characteristics of operating junction temperature.

Typical Characteristics (TA =25°C Noted)

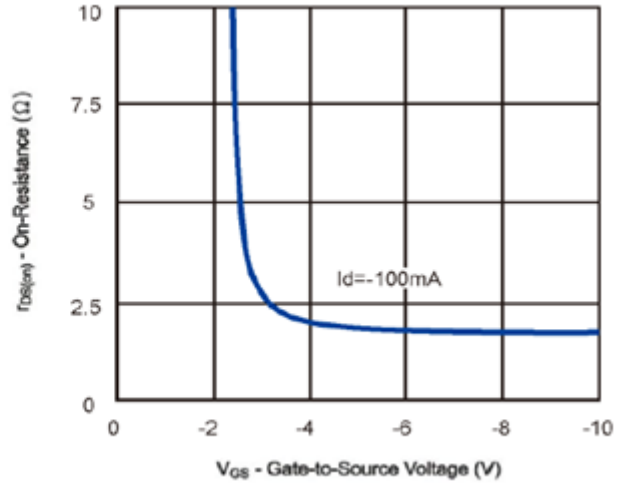


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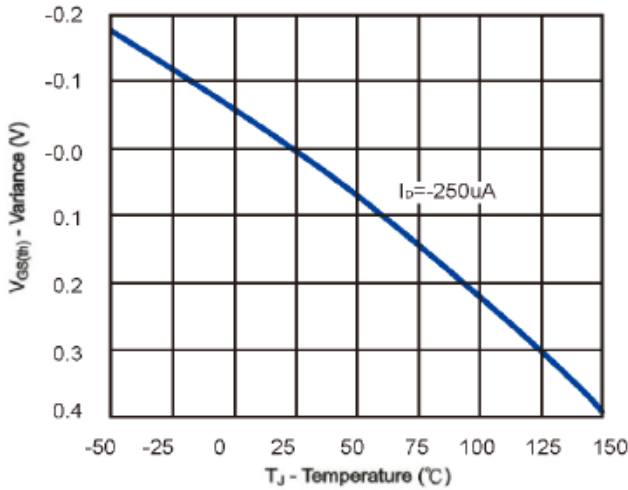
Capacitance vs. Drain-Source Voltage.



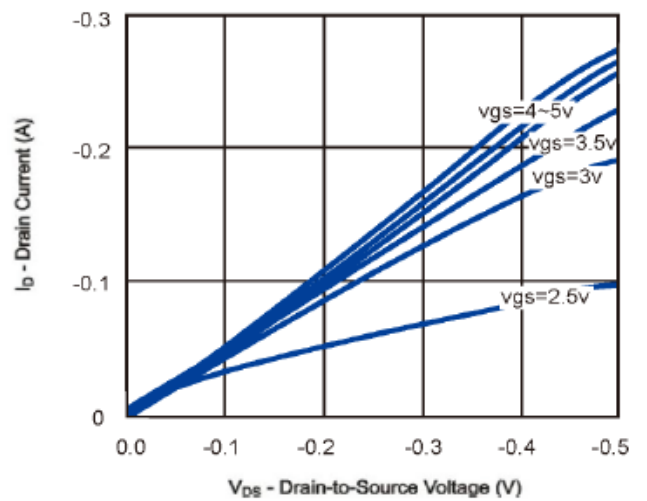
On-Resistance vs. Gate-to-Source Voltage



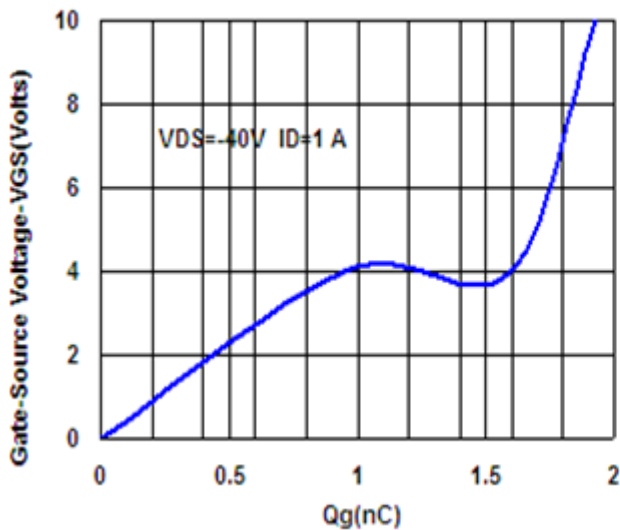
Threshold Voltage



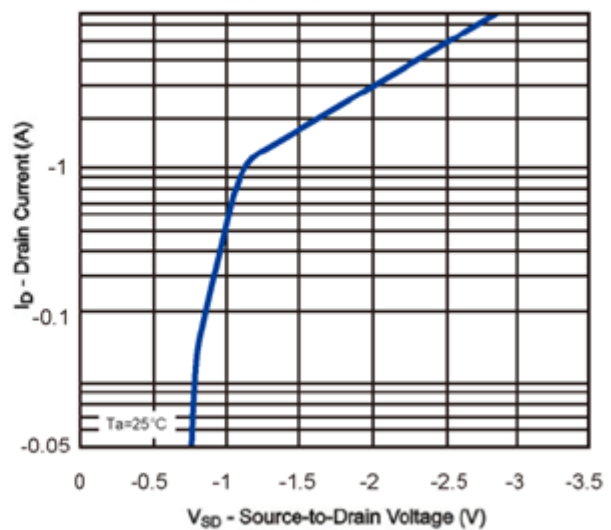
On-Region Characteristics



Gate-Charge Characteristics

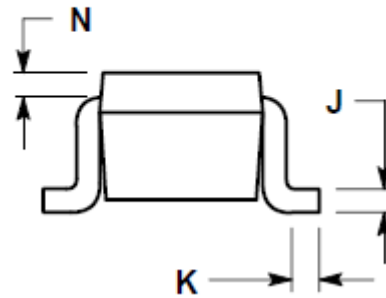
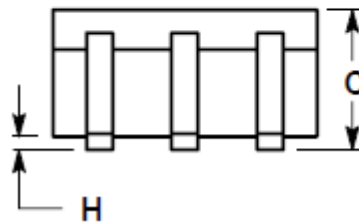
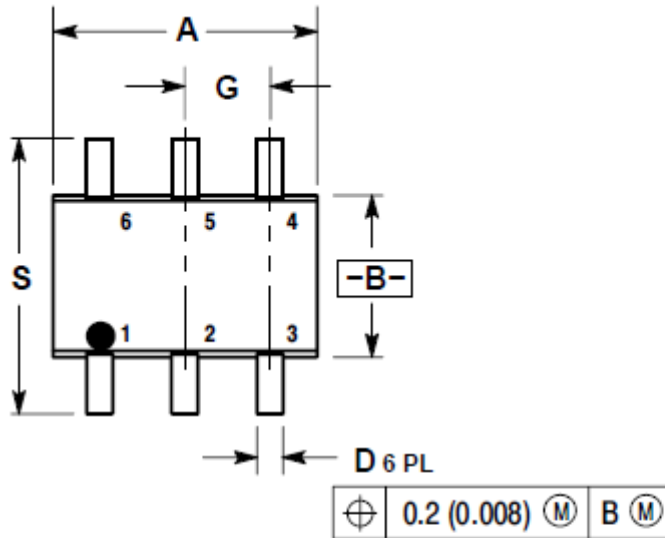


On-Resistance vs. Drain Current



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Package Dimension : SOT-363

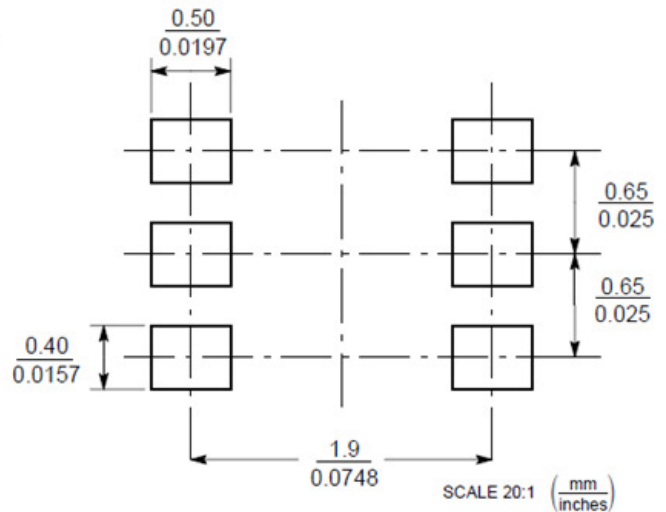


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. 419B-01 OBSOLETE, NEW STANDARD 419B-02.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.031	0.043	0.80	1.10
D	0.004	0.012	0.10	0.30
G	0.026 BSC		0.65 BSC	
H	---	0.004	---	0.10
J	0.004	0.010	0.10	0.25
K	0.004	0.012	0.10	0.30
N	0.008 REF		0.20 REF	
S	0.079	0.087	2.00	2.20

SOLDERING FOOTPRINT*



STYLE 1:

- PIN 1. EMITTER 2
2. BASE 2
3. COLLECTOR 1
4. EMITTER 1
5. BASE 1
6. COLLECTOR 2

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