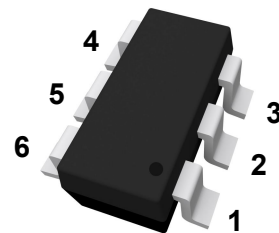


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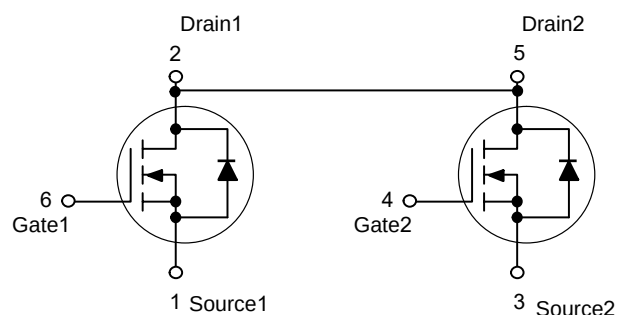
N-Channel Power MOSFET

■ Features

- Advanced trench process technology
- High Density Cell Design For Ultra Low On-Resistance
- High Power and Current handing capability



■ Simplified outline(SOT23-6)



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Maximum	Units
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	5	A
Pulsed Drain Current ^{Note1}	I_{DM}	25	A
Power Dissipation	P_D	1.25	W
Junction and Storage Temperature Range	T_J, T_{STG}	150, -55 to 150	$^\circ\text{C}$
Thermal Characteristics			
Parameter	Symbol	Typ.	Units
Maximum Junction-to-Ambient ^{Note2}	$R_{\theta JA}$	100	$^\circ\text{C/W}$

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■ Electrical Characteristics Ta = 25℃

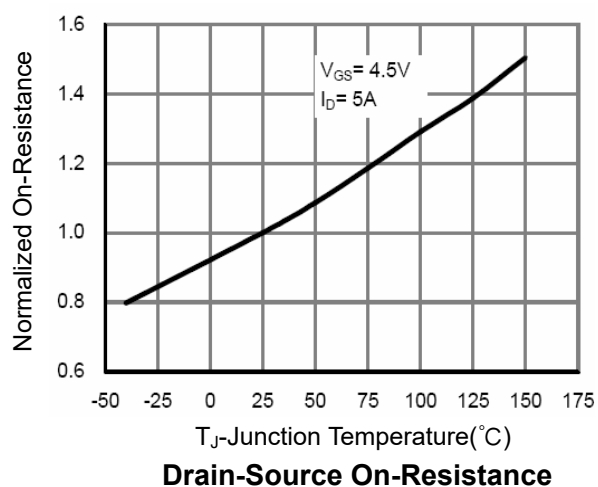
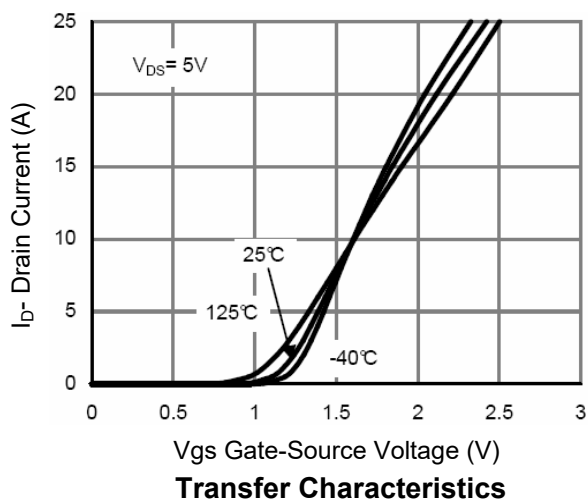
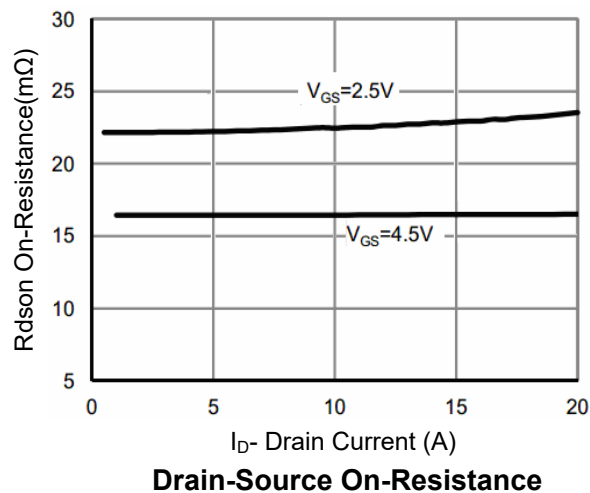
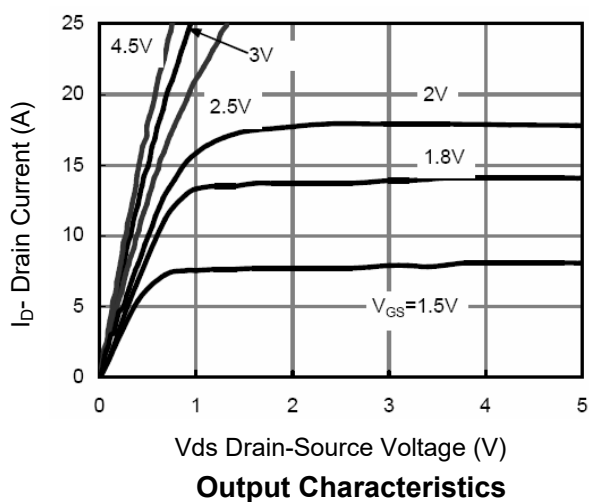
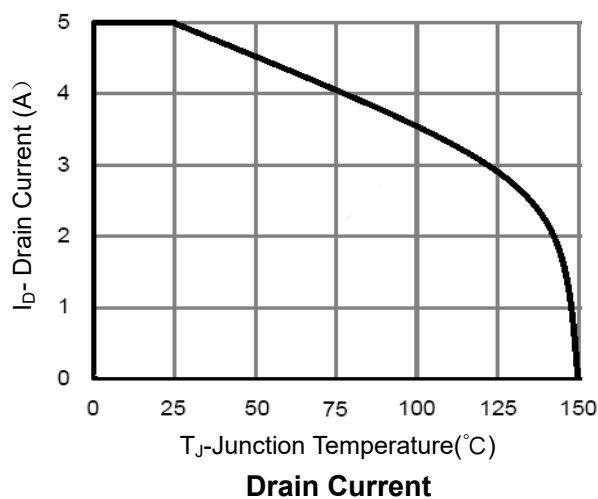
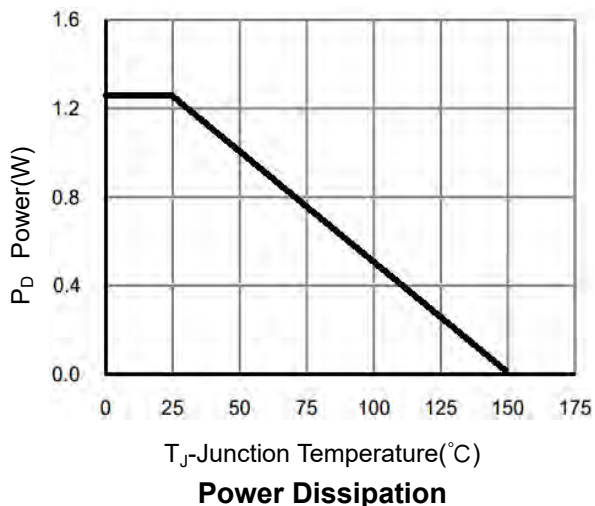
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Static Parameters						
Drain-Source Breakdown Voltage	BV _{DSS}	I _D =250μA, V _{GS} =0V	20	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =20V, V _{GS} =0V	--	--	1	μA
Gate-Body Leakage Current	I _{GSS}	V _{DS} =0V, V _{GS} =±12V	--	--	±100	nA
Gate Threshold Voltage ^{Note3}	V _{GS(th)}	V _{GS} =V _{DS} , I _D = 250μA	0.5	0.7	1.2	V
Static Drain-Source On-Resistance ^{Note3}	R _{DS(ON)}	V _{GS} =2.5V, I _D =4A	--	25	32	mΩ
		V _{GS} =4.5V, I _D =5A	--	20	25	mΩ
Forward Transconductance ^{Note3}	g _{FS}	V _{DS} =5V, I _D =5A	--	10	--	S
Dynamic Parameters						
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =10V, f=1MHz	--	550	--	pF
Output Capacitance	C _{oss}		--	125	--	pF
Reverse Transfer Capacitance	C _{rss}		--	64	--	pF
Switching Parameters						
Total Gate Charge	Q _g	V _{GS} =4.5V, V _{DS} =10V, I _D =5A	--	9.5	--	nC
Gate Source Charge	Q _{gs}		--	2.1	--	nC
Gate Drain Charge	Q _{gd}		--	1.4	--	nC
Turn-On DelayTime	t _{D(on)}	V _{GS} =4V, V _{DD} =10V, I _D =5A R _{GEN} =10Ω	--	9	--	ns
Turn-On Rise Time	t _r		--	10	--	ns
Turn-Off DelayTime	t _{D(off)}		--	32	--	ns
Turn-Off Fall Time	t _f		--	24	--	ns
Source-Drain Diode Parameters						
Body Diode Forward Voltage	V _{SD}	I _S =5A, V _{GS} =0V	--	0.8	1.2	V
Body Diode Continuous Source Current	I _S		--	--	5	A

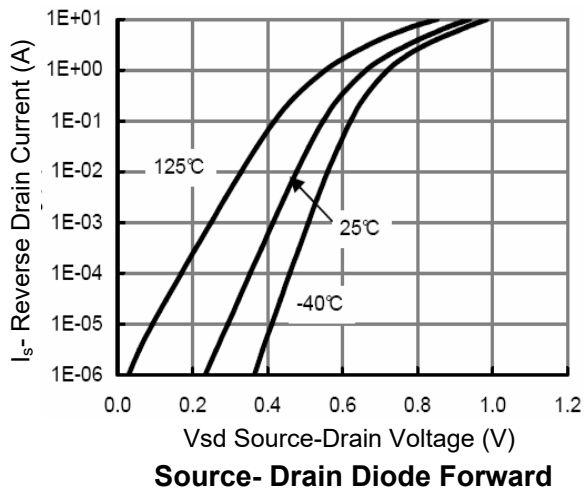
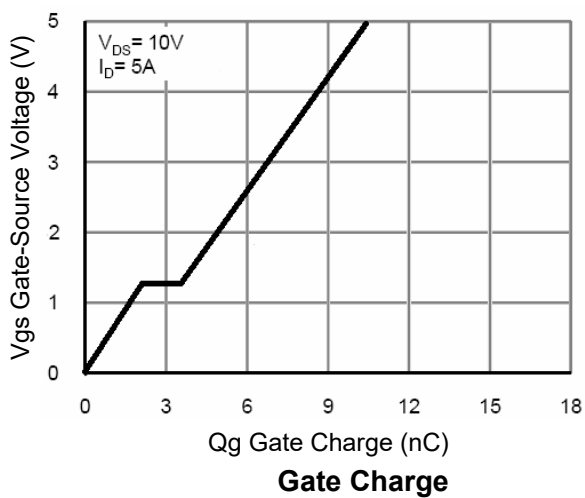
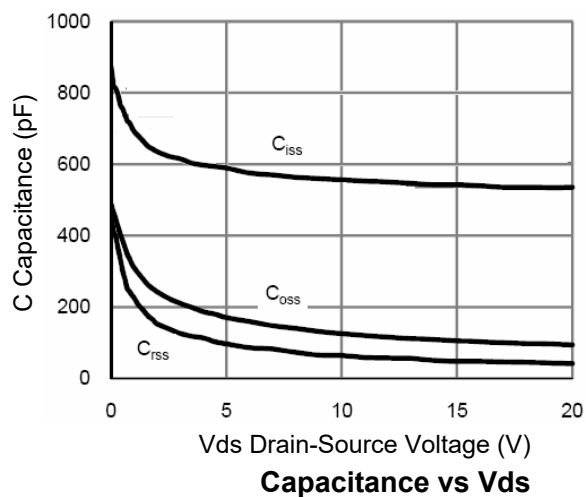
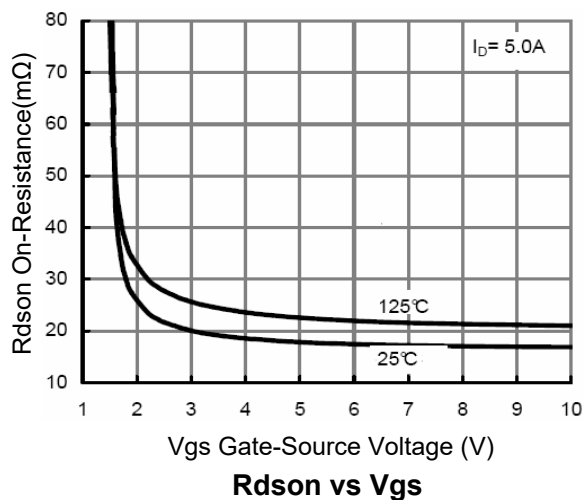
Notes: 1. Repetitive rating: pulsed width limited by maximum junction temperature.

2. Surface Mounted on FR4 Board, $t \leq 10$ sec.

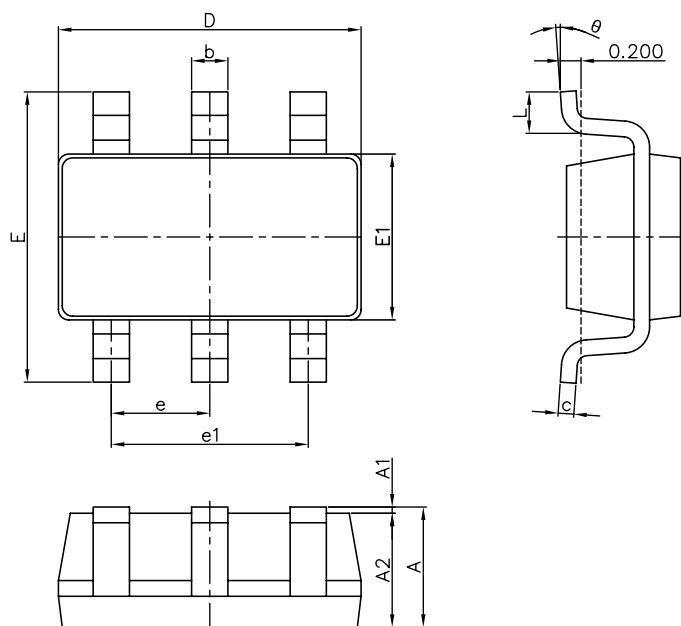
3. Pulse width $\leq 300\mu s$, duty cycle $\leq 2\%$

Electrical Characteristics Curves





■ SOT23-6



DIMENSIONS (mm are the original dimensions)

UNIT	A	A1	A2	b	c	D	E1	E	e	1c	L	θ
mm	1.05 1.25	0.1	1.05 1.15	0.30 0.50	0.10 0.20	2.80 3.02	1.50 1.70	2.65 2.95	0.95 (BSC)	1.80 2.00	0.30 0.60	0° 8°