

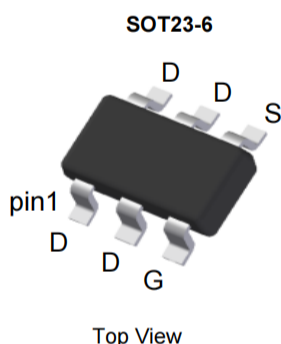
Product Summary

- 20V/-7 A
- $R_{DS(ON)} = 22m\Omega(Typ.)@V_{GS} = -4.5V$
- $R_{DS(ON)} = 26m\Omega(Typ.)@V_{GS} = -2.5V$

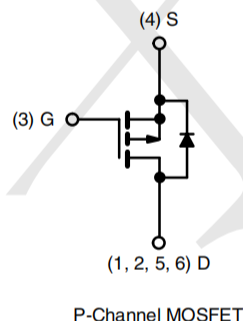
Application

- Battery Pack
- Portable Devices

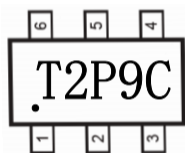
Package and Pin Configuration



Circuit diagram



Marking:



Absolute Maximum Ratings ($T_A = 25^\circ C$ unless otherwise noted)

PARAMETER	SYMBOL	LIMIT	UNIT
Drain-Source Voltage	V_{DS}	-20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	$T_C = 25^\circ C$	A
		$T_C = 100^\circ C$	
Pulsed Drain Current (Note 1)	I_{DM}	-26	A
Total Power Dissipation	P_{DTOT}	1.56	W
Operating Junction Temperature	T_J	150	$^\circ C$
Operating Junction and Storage Temperature Range	T_J, T_{STG}	- 55 to +150	$^\circ C$

Thermal Characteristic

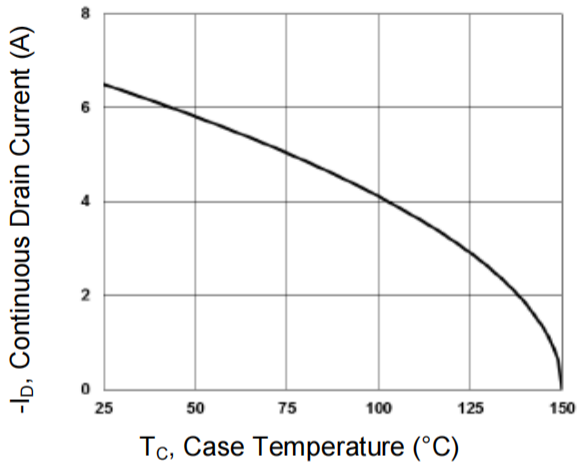
PARAMETER	SYMBOL	LIMIT	UNIT
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	80	$^\circ C/W$

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

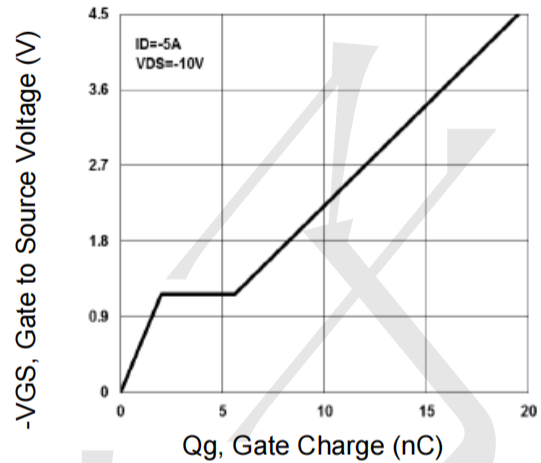
PARAMETER	CONDITIONS	SYMBOL	MIN	TYP	MAX	UNIT
Static ^(Note 2)						
Drain-Source Breakdown Voltage	V _{GS} = 0V, I _D = -250μA	BV _{DSS}	-20	--	--	V
Gate Threshold Voltage	V _{DS} = V _{GS} , I _D = -250μA	V _{GS(TH)}	-0.4	--	-1.1	V
Gate Body Leakage	V _{GS} = ±12V, V _{DS} = 0V	I _{GSS}	--	--	±100	nA
Zero Gate Voltage Drain Current	V _{DS} = -20V, V _{GS} = 0V	I _{DSS}	--	--	-1	μA
	V _{DS} = -16V, T _J = 125°C		--	--	-10	
Drain-Source On-State Resistance	V _{GS} = -4.5V, I _D = -5A	R _{DS(on)}	--	22	26	mΩ
	V _{GS} = -2.5V, I _D = -4A		--	26	32	
	V _{GS} = -1.8V, I _D = -3A		--	32	40	
Forward Transconductance	V _{DS} = -10V, I _S = -5A	g _{fs}	--	15	--	S
Dynamic ^(Note 3)						
Total Gate Charge	V _{DS} = -10V, I _D = -5A, V _{GS} = -4.5V	Q _g	--	19.5	--	nC
Gate-Source Charge		Q _{gs}	--	2	--	
Gate-Drain Charge		Q _{gd}	--	3.6	--	
Input Capacitance	V _{DS} = -15V, V _{GS} = 0V, F = 1.0MHz	C _{iss}	--	1670	--	pF
Output Capacitance		C _{oss}	--	220	--	
Reverse Transfer Capacitance		C _{rss}	--	120	--	
Switching						
Turn-On Delay Time	V _{DD} = -10V, I _D = -1A, V _{GS} = -4.5V, R _{GEN} = 25Ω	t _{d(on)}	--	10.4	--	ns
Turn-On Rise Time		t _r	--	37.5	--	
Turn-Off Delay Time		t _{d(off)}	--	89.1	--	
Turn-Off Fall Time		t _f	--	24.6	--	
Source-Drain Diode						
Forward Voltage	V _{GS} = 0V, I _S = -1A	V _{SD}	--	--	-1	V
Continuous Forward Current	Integral reverse diode in the MOSFET	I _S	--	--	-7	A
Pulse Forward Current		I _{SM}	--	--	-26	A

Typical Electrical and Thermal Characteristics

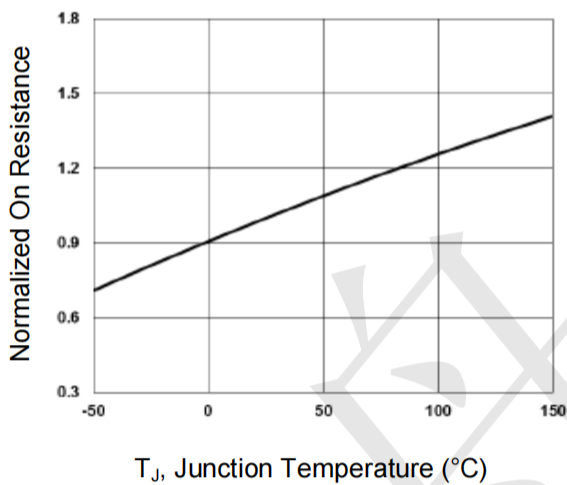
Continuous Drain Current vs. T_C



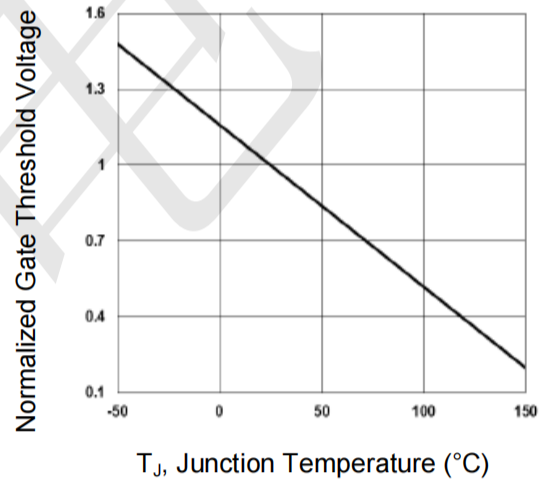
Gate Charge



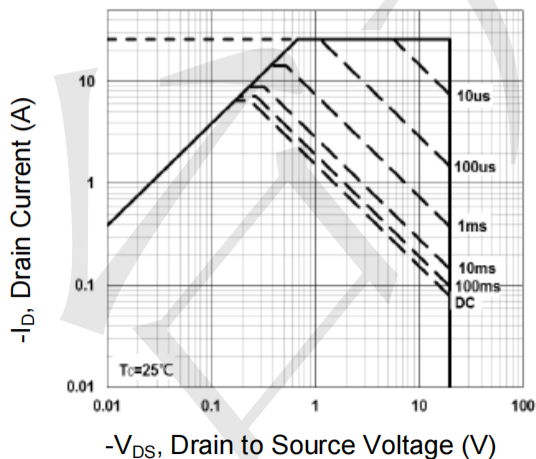
On-Resistance vs. Junction Temperature



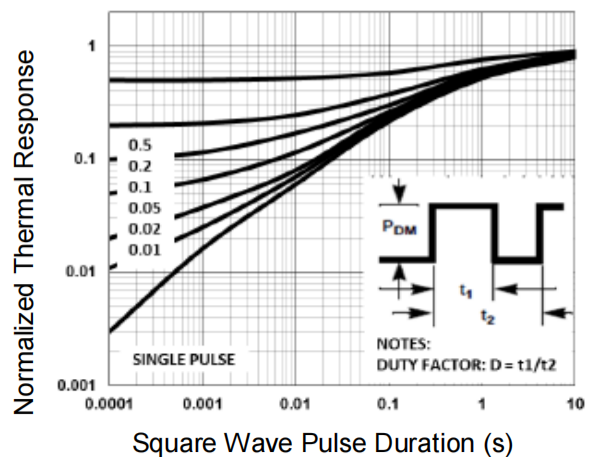
Threshold Voltage vs. Junction Temperature



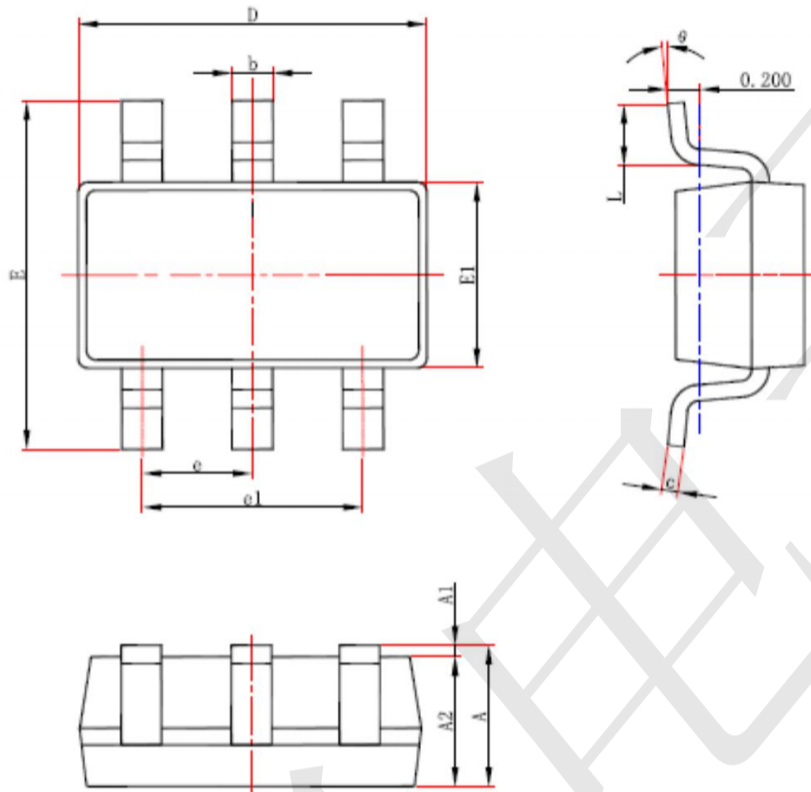
Maximum Safe Operating Area



Normalized Thermal Transient Impedance Curve



SOT23-6 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	1.050	1.250	0.041	0.049
A1	0.000	0.100	0.000	0.004
A2	1.050	1.150	0.041	0.045
b	0.300	0.500	0.012	0.020
c	0.100	0.200	0.004	0.008
D	2.820	3.020	0.111	0.119
E1	1.500	1.700	0.059	0.067
E	2.650	2.950	0.104	0.116
e	0.950(BSC)		0.037(BSC)	
e1	1.800	2.000	0.071	0.079
L	0.300	0.600	0.012	0.024
θ	0°	8°	0°	8°

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