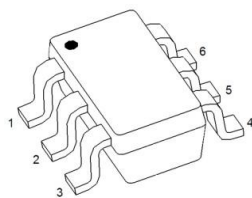
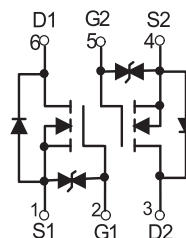
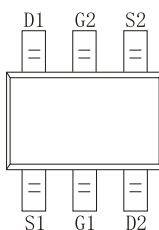


N-channel MOSFET



SOT-363

MARKING: D2t



Features

- High density cell design for Low $R_{DS(on)}$
- Voltage controlled small signal switch
- Rugged and reliable
- High saturation current capability
- ESD Rating: 2000V HBM

Applications

- Load Switch for Portable Devices
- DC/DC Converter

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20 V	380mΩ@ 4.5V	0.75A
	450mΩ@ 2.5V	
	800mΩ@ 1.8V	

MOSFET MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-source voltage	V_{DS}	20	V
Typical Gate-source voltage	V_{GS}	±12	V
Continuous drain current ($t \leq 10s$)	I_D	0.75	A
Power dissipation*	P_D	0.15	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	833	$^\circ\text{C/W}$
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55~ +150	$^\circ\text{C}$

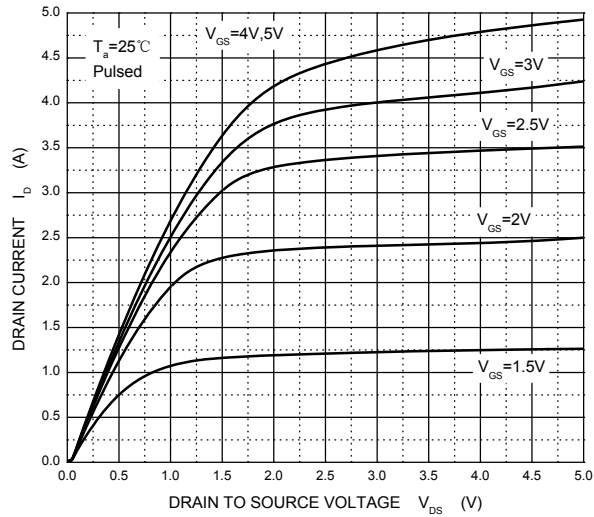
* Repetitive rating : Pulse width limited by junction temperature.

$T_a=25^{\circ}\text{C}$ unless otherwise specified

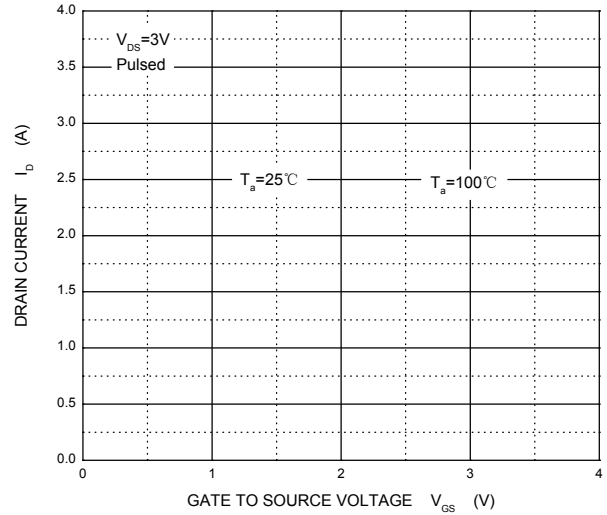
Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	V _{(BR) DSS}	V _{GS} = 0V, I _D =250μA	20			V
Zero gate voltage drain current	I _{DSS}	V _{DS} =20V, V _{GS} = 0V			1	μA
Gate-body leakage current	I _{GSS}	V _{GS} =±10V, V _{DS} = 0V			±20	μA
Gate threshold voltage (note 1)	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	0.6	0.7	1.5	V
Drain-source on-resistance (note 1)	R _{DS(on)}	V _{GS} =4.5V, I _D =0.65A		270	380	mΩ
		V _{GS} =2.5V, I _D =0.55A		320	450	mΩ
		V _{GS} =1.8V, I _D =0.45A		390	800	mΩ
Forward tranconductance (note 1)	g _{FS}	V _{DS} =10V, I _D =0.8A		1.6		S
Diode forward voltage(note 1)	V _{SD}	I _S =0.15A, V _{GS} = 0V			1.2	V
DYNAMIC PARAMETERS (note 2)						
Input Capacitance	C _{iss}	V _{DS} =16V, V _{GS} =0V, f =1MHz		79	120	pF
Output Capacitance	C _{oss}			13	20	pF
Reverse Transfer Capacitance	C _{rss}			9	15	pF
SWITCHING PARAMETERS(note 2)						
Turn-on delay time	t _{d(on)}	V _{GS} =4.5V, V _{DS} =10V, I _D =0.5A, R _{GEN} =10Ω		6.7		ns
Turn-on rise time	t _r			4.8		ns
Turn-off delay time	t _{d(off)}			17.3		ns
Turn-off fall time	t _f			7.4		ns
Total Gate Charge	Q _g	V _{DS} =10V, V _{GS} =4.5V, I _D =0.25A		750		pC
Gate-Source Charge	Q _{gs}			75		pC
Gate-Drain Charge	Q _{gd}			225		pC

Typical Characteristics

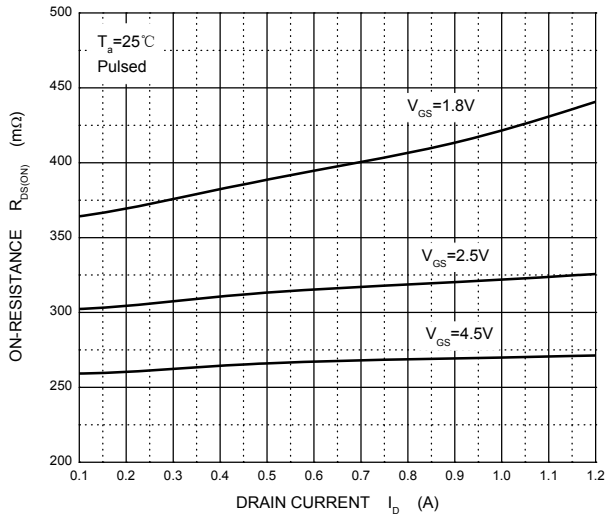
Output Characteristics



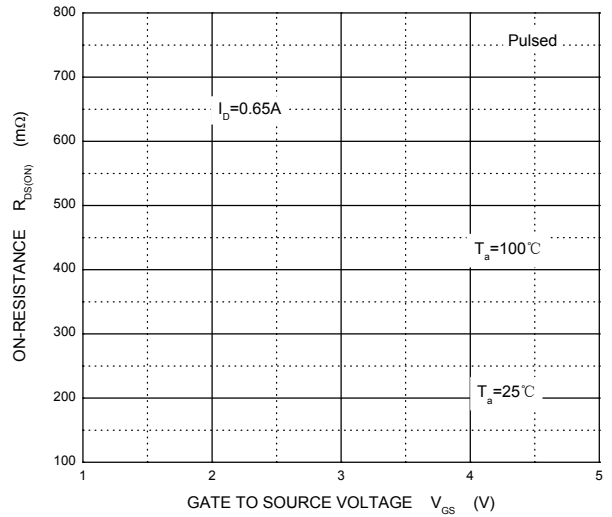
Transfer Characteristics



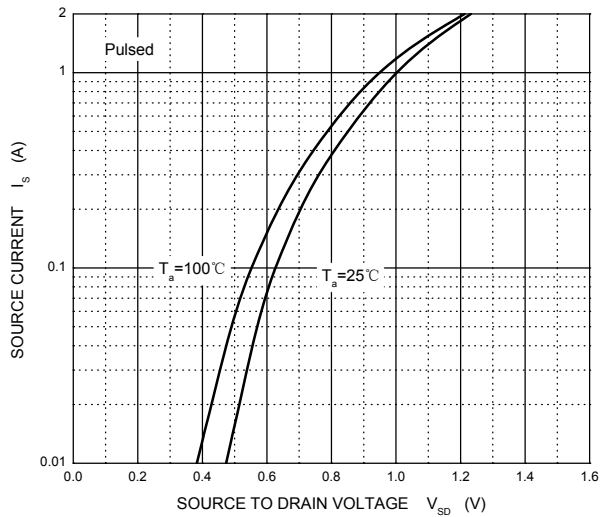
$R_{DS(ON)}$ — I_D



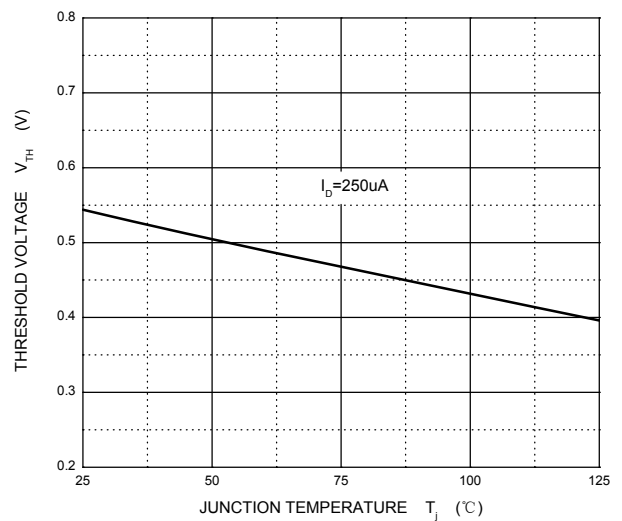
$R_{DS(ON)}$ — V_{GS}



I_S — V_{SD}

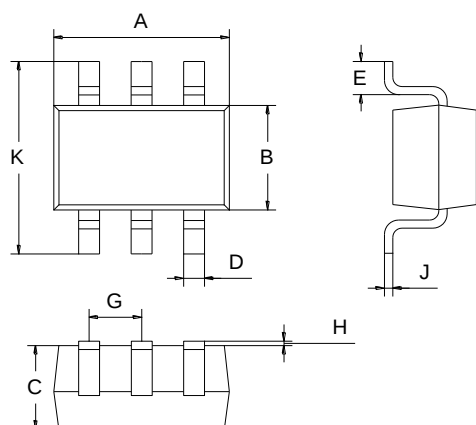


Threshold Voltage



Plastic surface mounted package

SOT-363



SOT-363		
Dimension	Min.	Max.
A	2.00	2.20
B	1.15	1.35
C	0.85	1.05
D	0.15	0.35
E	0.25	0.40
G	0.60	0.70
H	0.02	0.10
J	0.05	0.15
K	2.20	2.40

SOLDERING FOOTPRINT

