Descriptions

This 60V dual N-Channel MOSFET in a SOT-363 Plastic Package.

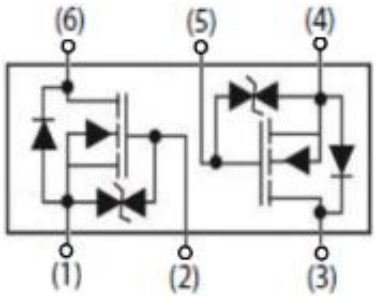
Features

- Sensitive gate trigger current and Low Holding current.ESD protected diode
- Halogen-free Product.

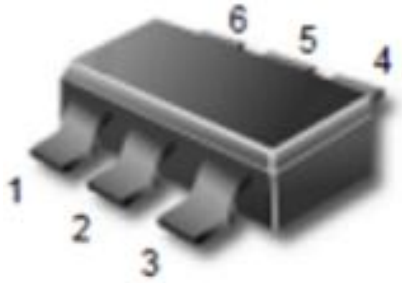
Applications

Intended for use in general purpose switching and phase control applications.

Equivalent Circuit



Pinning



PIN1、PIN4：Source　　PIN 2、PIN5：Gate　　PIN 3、PIN6：Drain

Absolute Maximum Ratings(Ta=25℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain-Gate Voltage	V_{DGR}	60	V
Maximum Drain Current - Continuous	I_D	320	mA
Maximum Drain Current - Pulsed	I_{DM}	1.5	A
Gate-Source Voltage - Continuous	V_{GSS}	±20	V
Maximum Power Dissipation	P_D	350	mW
Storage Temperature Range	T_{stg}	-55～150	℃
Maximum Junction-to-Ambient(Note 1)	$R_{\theta JA(Steady\ State)}$	417	℃/W
	$R_{\theta JA(t\leq 5s)}$	300	

Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	V_{DSS}	V_{GS}=0 I_D=250μA	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0 V_{DS}=60V			1.0	μA
Gate-Source Leakage	I_{GSS}	V_{DS}=0V V_{GS}=±20V			±10	μA
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	V_{GS}=10V I_D=0.5A			2.3	Ω
	$R_{DS(on)(2)}$	V_{GS}=5V I_D=0.05A		1.7	2.7	Ω
Drain-Source Diode Forward Voltage	V_{SD}	V_{GS}=0V I_S=250mA			1.5	V
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS} I_D=250uA	1.0	1.6	2.5	V
Forward Transconductance	Y_{fs}	V_{DS}=10V I_D=0.2A	80			mS
Input Capacitance	Ciss	V_{GS}=0V f=1MHz, V_{DS}=20V		25	50	pF
Output Capacitance	Coss			11	25	
Reverse Transfer Capacitance	Crss			2.5	5	
Total Gate Charge	$Q_{G(TOT)}$	V_{GS}=4.5V V_{DS}=10V; ID=200 mA		0.7		nC
Threshold Gate Charge	$Q_{G(TH)}$			0.1		
Gate−to−Source Charge	Q_{GS}			0.3		
Gate−to−Drain Charge	Q_{GD}			0.1		

Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Turn−On Delay Time	$t_{d(ON)}$	VGS =10V, VDD=25V, ID=500mA, RG=25Ω		12.2		ns
Rise Time	t_r			9.0		
Turn−Off Delay Time	$t_{d(OFF)}$			55.8		
Fall Time	t_f			29		

Electrical Characteristic Curve

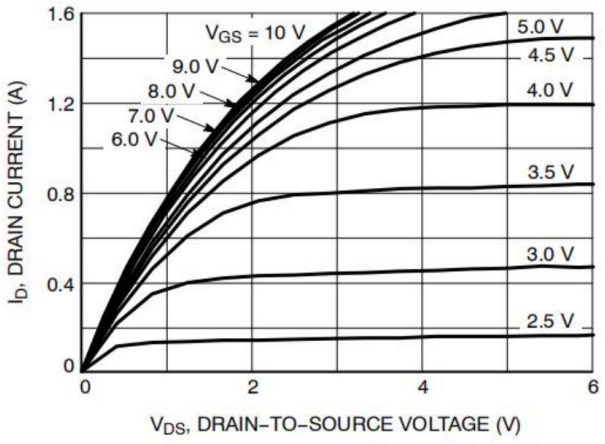


Figure 1. On-Region Characteristics

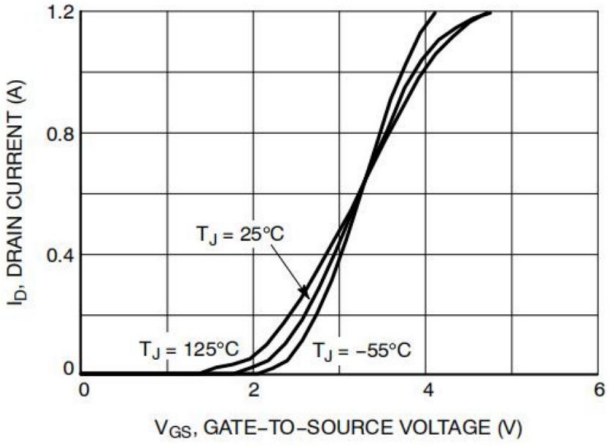


Figure 2. Transfer Characteristics

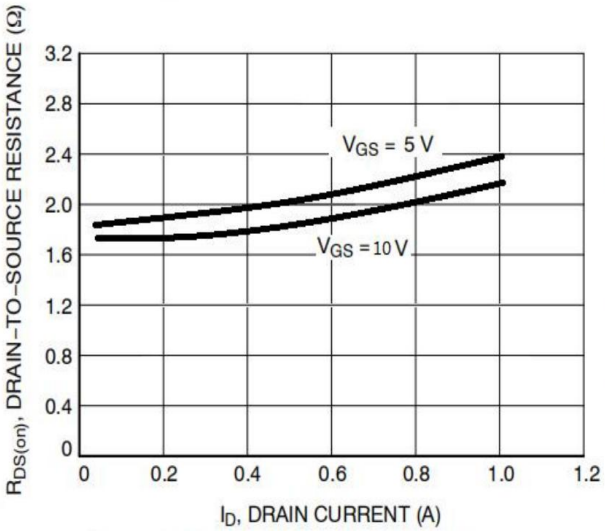


Figure 3. On-Resistance vs. Drain Current and Temperature

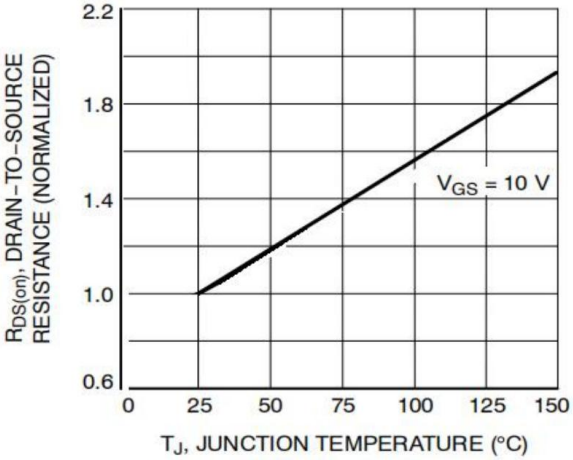


Figure 4 On-Resistance Variation with Temperature

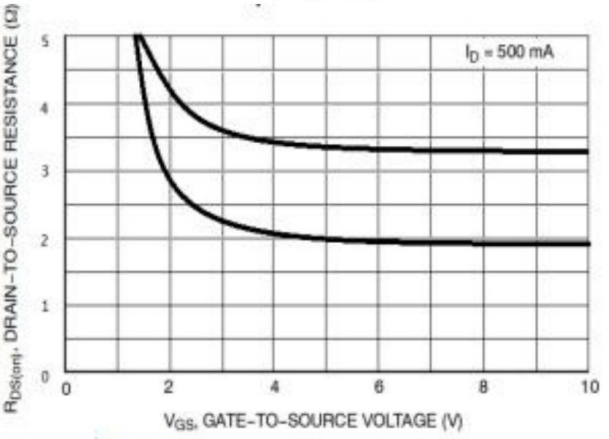


Figure 5. On-Resistance vs. Gate-to-Source Voltage

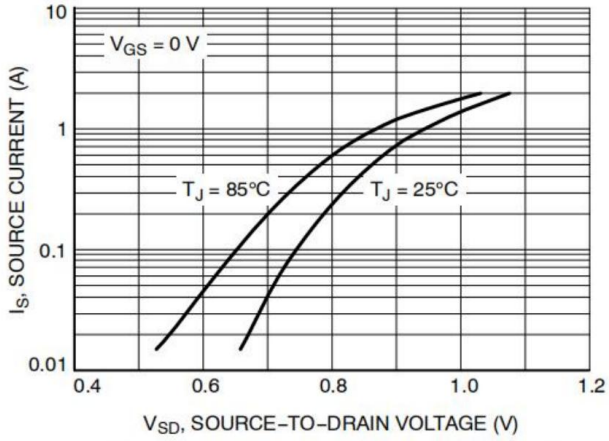


Figure 6 Diode Forward Voltage vs. Current

Electrical Characteristic Curve

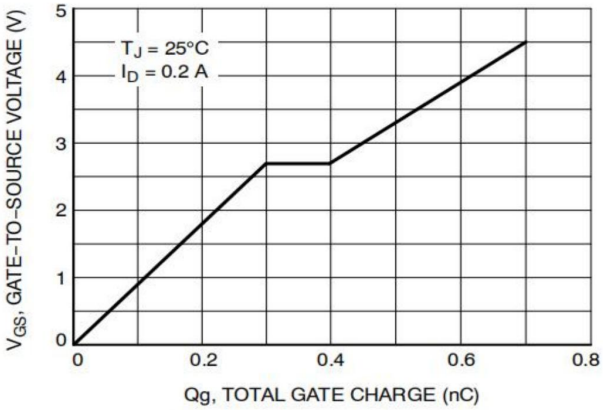


Figure 7 . Gate-to-Source and Drain-to-Source Voltage vs. Total Charge

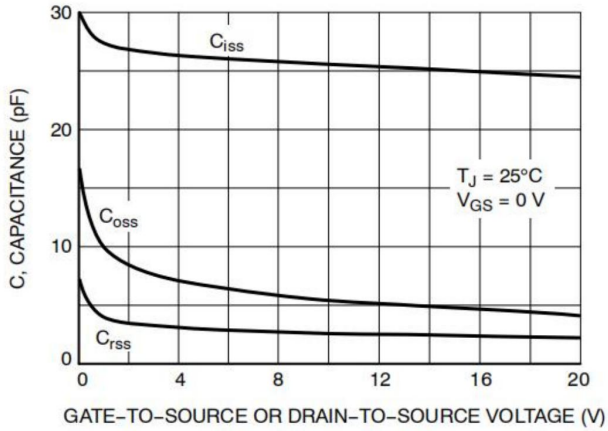


Figure 8. Capacitance Variation

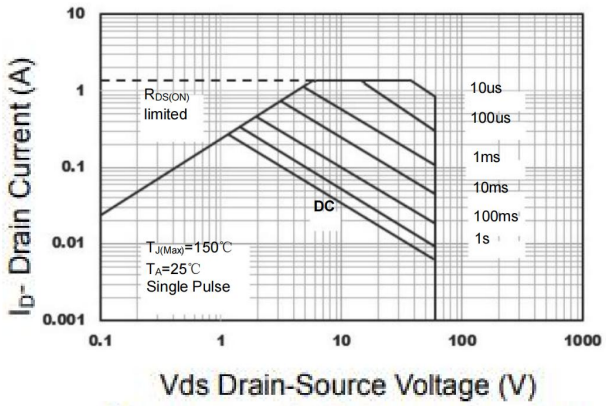


Figure 9 : Safe Operation Area

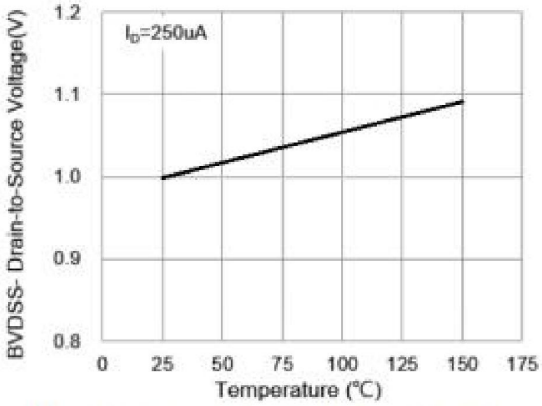


Figure 10 : Breakdown Voltage vs. Temperture

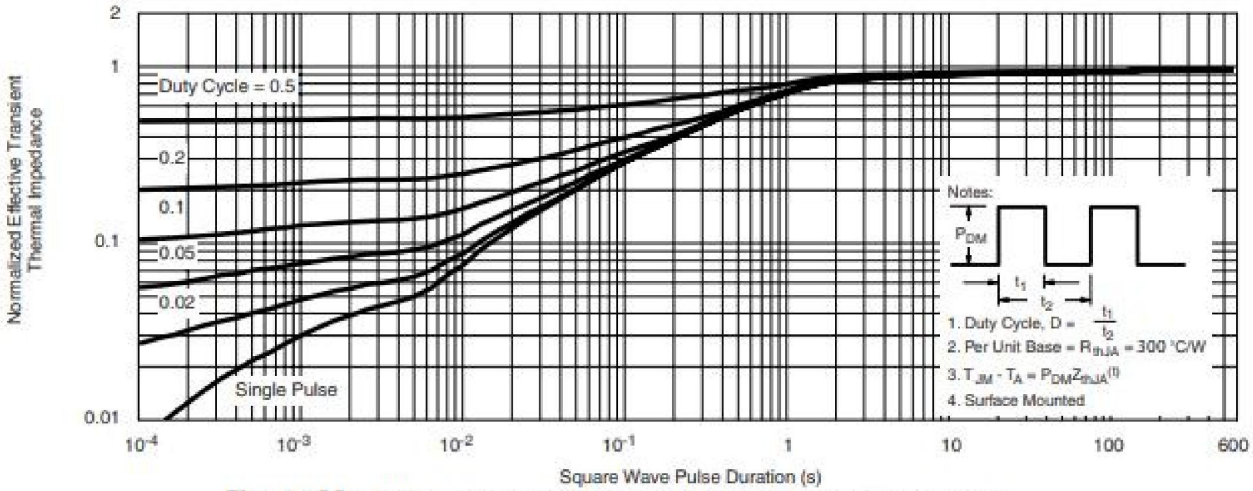
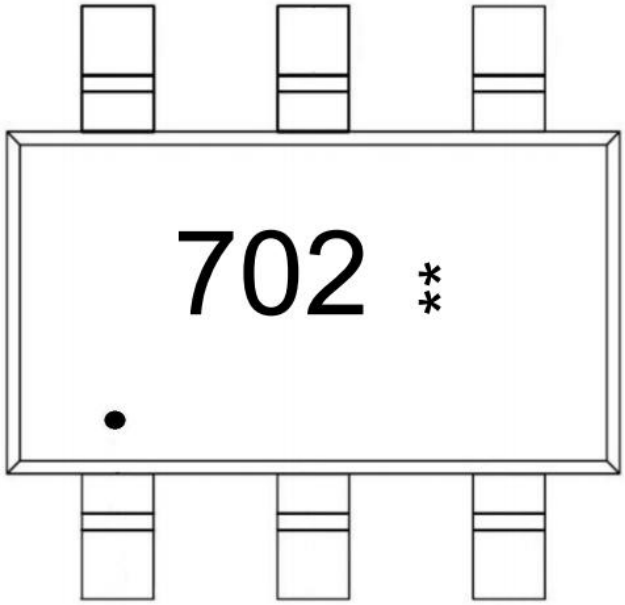


Figure 11 : Normalized Thermal Transient Impedance, Junction-to-Ambient

Marking Instructions



Note:

●: "1" Pin

702: Product Type Code

***: Lot No. Code, code change with Lot No

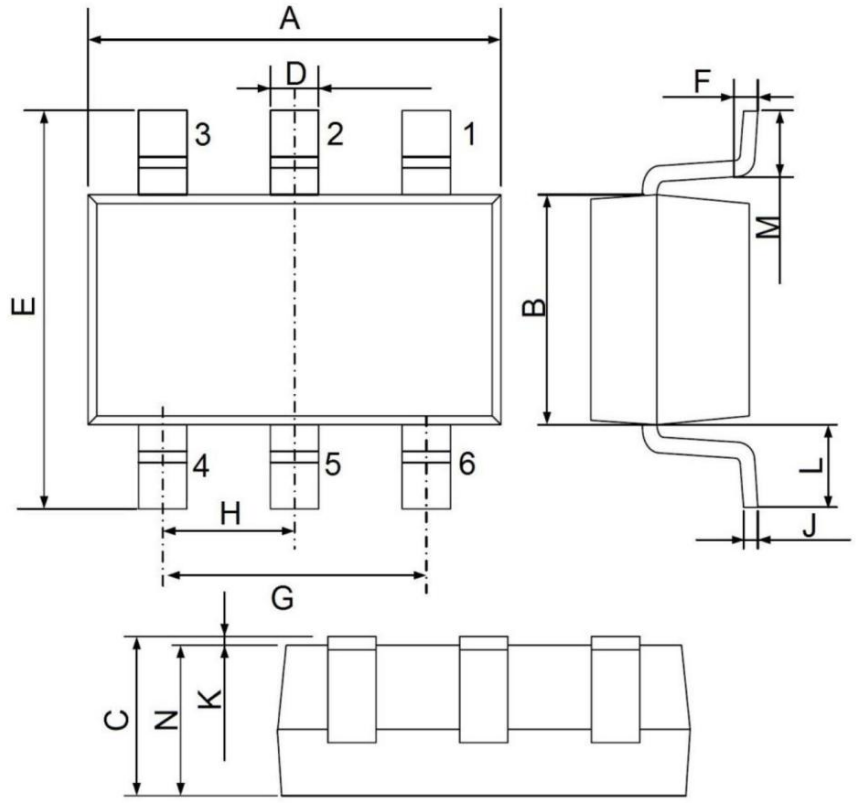
Packaging SPEC

REEL INFORMATION

Package Type	Units					Dimension (unit: mm^3)		
	Units/Reel	Reels/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Reel	Inner Box	Outer Box
SOT-363	3,000	10	30,000	6	180,000	7″ ×8	180×120×180	390×385×205

Package Outline Dimensions

SOT-363-6L



UNIT: mm

DIM	MIN	MAX
A	2.00	2.20
B	1.15	1.35
C	0.90	1.10
D	0.15	0.35
E	1.95	2.25
F	0.20 Typ.	
G	1.20	1.40
H	0.65 Typ.	
J	0.08	0.15
K	0.00	0.10
L	0.525 Ref.	
M	0.26	0.46
N	0.90	1.10