

Descriptions

Double N-CHANNEL MOSFET in a SOT-363 Plastic Package.

Features

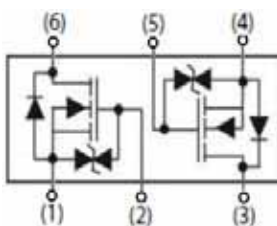
Sensitive gate trigger current and Low Holding current.ESD protected diode.

ESD rating:2200V HBM

Applications

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

Equivalent Circuit



Pinning



PIN1、 4 : S

PIN 2、 5 : G

PIN 3、 6 : D

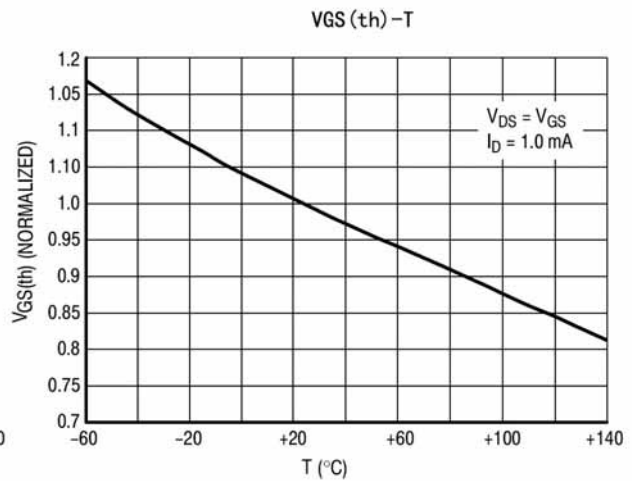
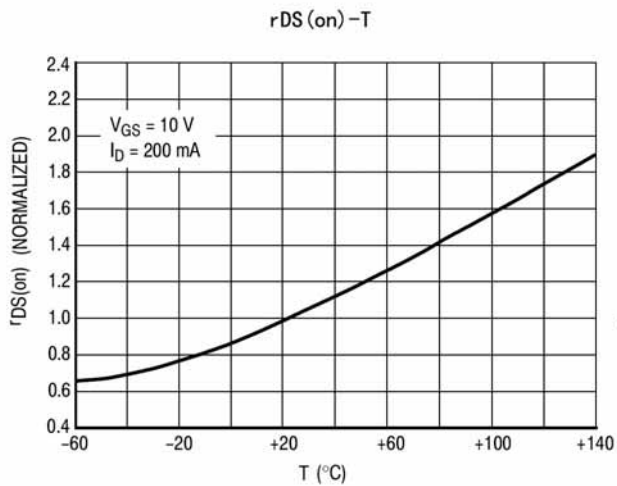
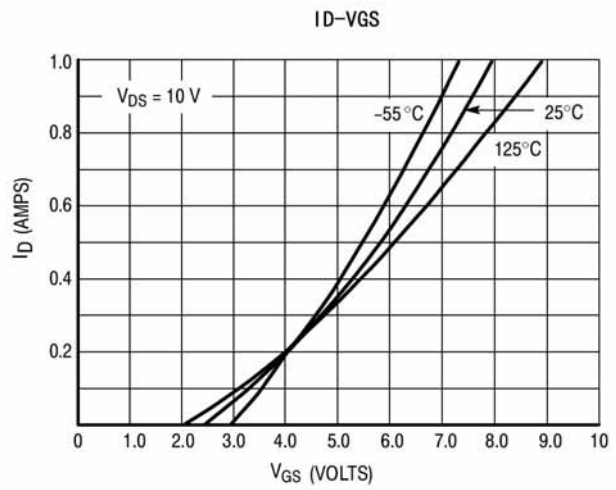
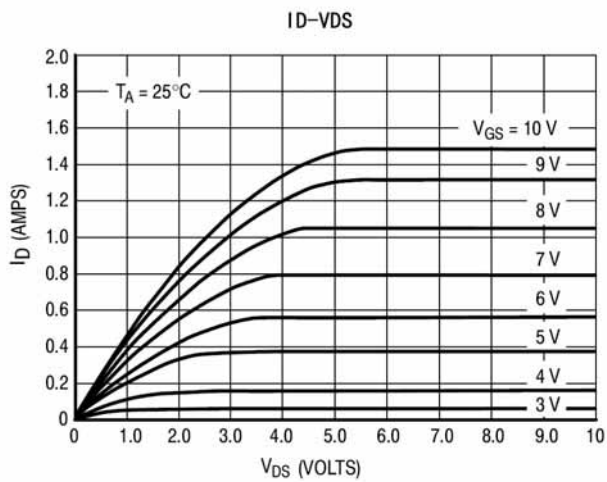
Absolute Maximum Ratings(Ta=25 °C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain-Gate Voltage	V_{DGR}	60	V
Maximum Drain Current - Continuous	I_D	250	mA
Maximum Drain Current - Pulsed	I_{DM}	800	mA
Gate-Source Voltage - Continuous	V_{GSS}	±20	V
Maximum Power Dissipation	P_D	350	mW
Storage Temperature Range	T_{stg}	-55~150	°C

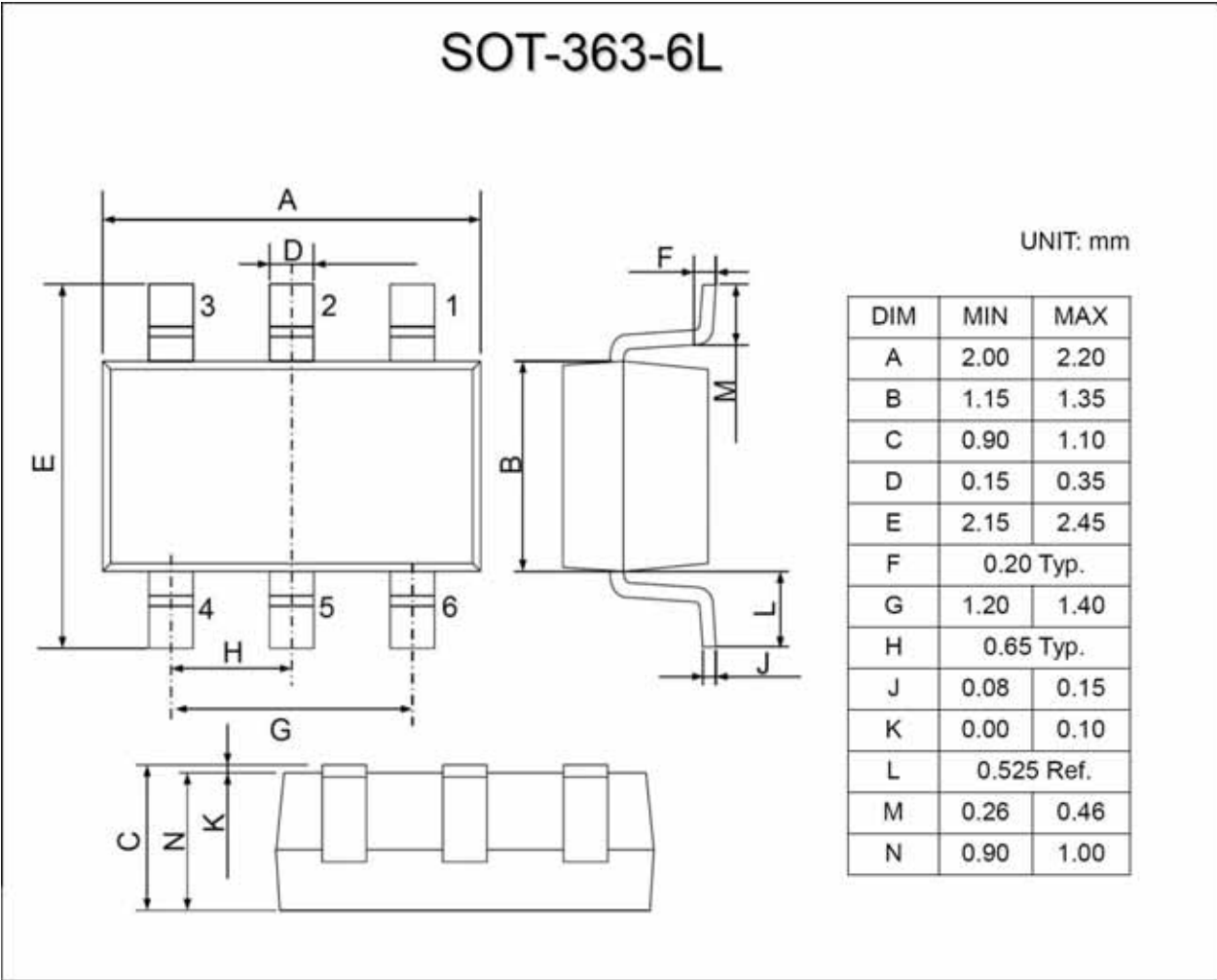
Electrical Characteristics(Ta=25 °C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0$ $I_D=10\mu A$	60			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=60V$ $T_J=25^\circ C$			1.0	μA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{GS}=0$ $V_{DS}=60V$ $T_J=125^\circ C$			500	μA
Gate - Body Leakage	I_{GSS}	$V_{GS}=\pm 20V$ $V_{DS}=0V$			±10	nA
Static Drain-Source On-Resistance	$R_{DS(on)(1)}$	$V_{GS}=5V$ $I_D=0.05A$		1.5	5	Ω
	$R_{DS(on)(2)}$	$V_{GS}=10V$ $I_D=0.5A$		1.3	5	Ω
Forward Transconductance	g_{FS}	$V_{DS}=10V$ $I_D=0.2A$	80			mS
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V$ $I_S=250mA$			1.5	V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	1.0		1.9	V
On-State Drain Current	$I_{D(on)}$	$V_{DS} \geq 2.0V_{DS(on)}$ $V_{GS}=10V$	500			mA
Drain-Source On-Voltage	$V_{DS(on)(1)}$	$V_{GS}=10V$ $I_D=500mA$			2.5	V
	$V_{DS(on)(2)}$	$V_{GS}=5.0V$ $I_D=50mA$			0.27 5	V
Turn-On Time	$t_{d(on)}$	$V_{DD}=30V$ $I_D=200mA$ $R_G=25\Omega$ $R_L=150\Omega$ $V_{gen}=10V$		7.5	20	ns
Turn-Off Time	$t_{d(off)}$			11	20	ns

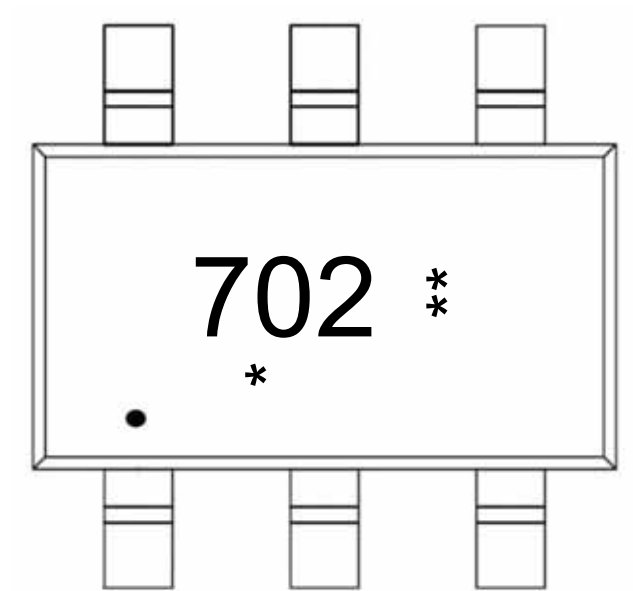
RATING AND CHARACTERISTICS CURVES (2N7002KS6)



Package Dimensions



Marking Instructions



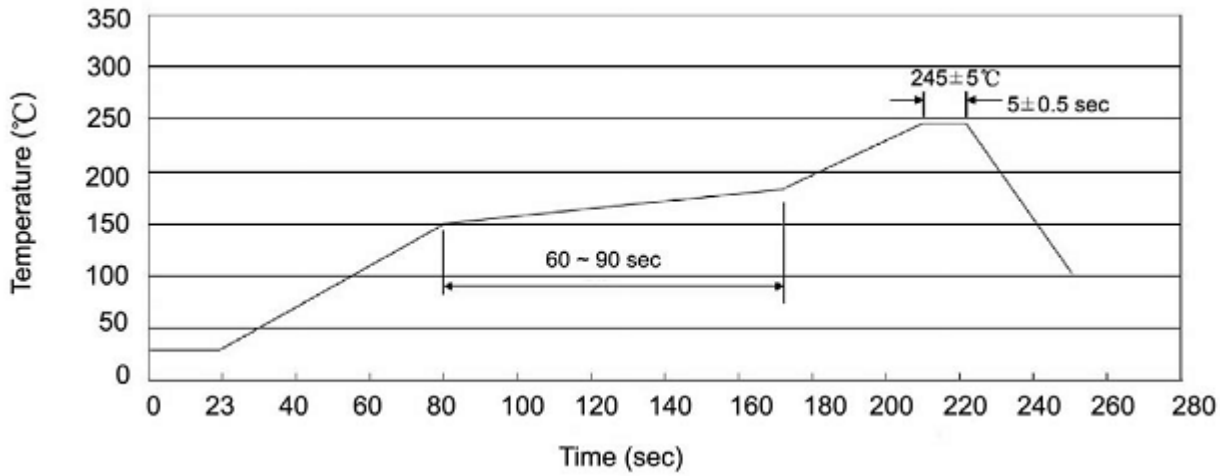
Note:

● : "1" Pin

702 : Product Type Code

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

Temperature Profile for IR Reflow Soldering(Pb-Free)



Note:

- 1.Preheating: $25 \sim 150^{\circ}\text{C}$, Time: 60~90sec.
- 2.Peak Temp.: $245 \pm 5^{\circ}\text{C}$, Duration: 5 ± 0.5 sec.
- 3.Cooling Speed: $2 \sim 10^{\circ}\text{C}/\text{sec}$.

Resistance to Soldering Heat Test Conditions

Temp.: $260 \pm 5^{\circ}\text{C}$ Time: 10 ± 1 sec

Packaging SPEC.

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	8	240,000	7" x8	180×120×180	385×257×392

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