RECTRON SEMICONDUCTOR
TECHNICAL SPECIFICATION

2N7002DS6

Descriptions

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

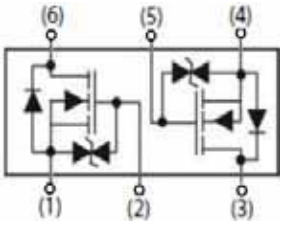
Features

- Sensitive gate trigger current and Low Holding current.ESD protected diode.
- ESD rating:2200V HBM
- Halogen-free

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

2019-11/33
REV:F

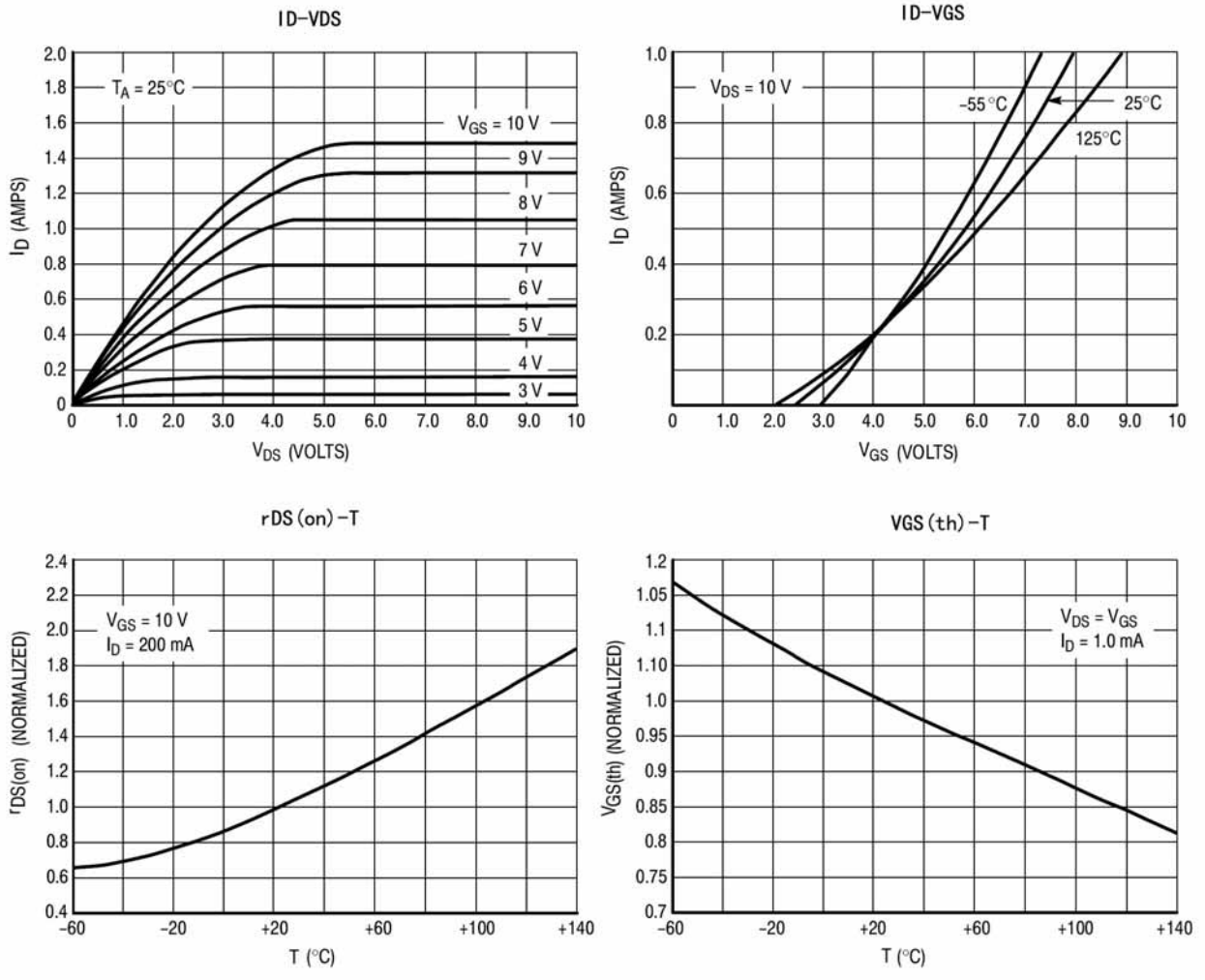
Absolute Maximum Ratings(Ta=25 ℃)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DSS}	60	V
Drain-Gate Voltage	V_{DGR}	60	V
Maximum Drain Current - Continuous	I_D	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	℃

Electrical Characteristics(Ta=25 ℃)

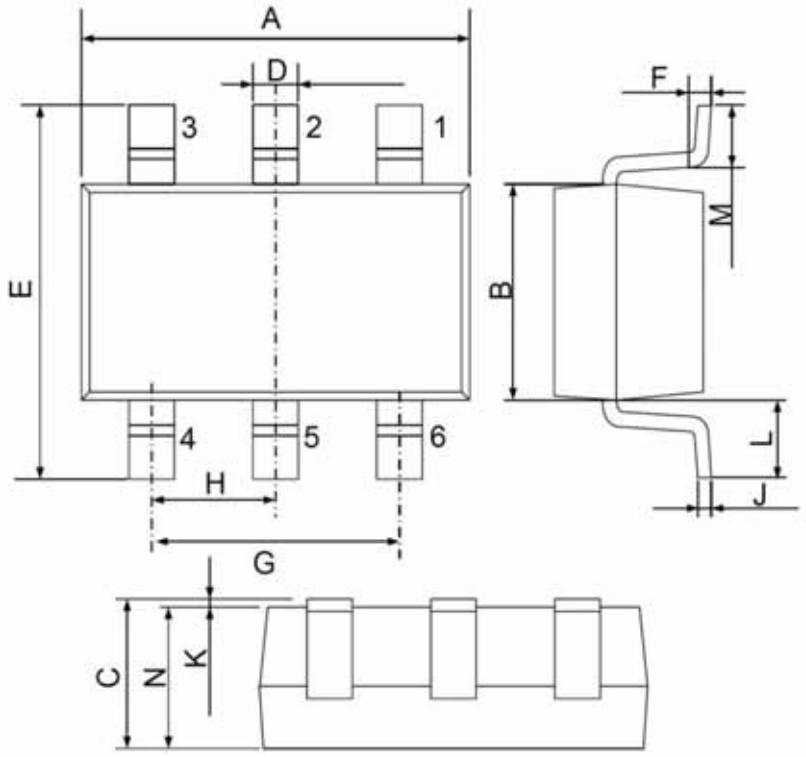
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain–Source Breakdown Voltage	$V_{(BR)DSS}$	V_{GS}=0 I_D=10μA	60			V
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0 V_{DS}=60V T_j=25℃			1.0	μA
Zero Gate Voltage Drain Current	I_{DSS}	V_{GS}=0 V_{DS}=60V T_j=125℃			500	μA
Gate - Body Leakage	I_{GSS}	V_{GS}=±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=250μA	1.0		1.9	V
On-State Drain Current	$I_{D(on)}$	V_{DS}≥2.0$V_{DS(on)}$ 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			0.275	V
Turn-On Time	$t_{d(on)}$	V_{DD}=30V I_D=200mA R_G=25Ω R_L=150Ω V_{gen}=10V		7.5	20	ns
Turn-Off Time	$t_{d(off)}$			11	20	ns

RATING AND CHARACTERISTICS CURVES (2N7002DS6)



Package Dimensions

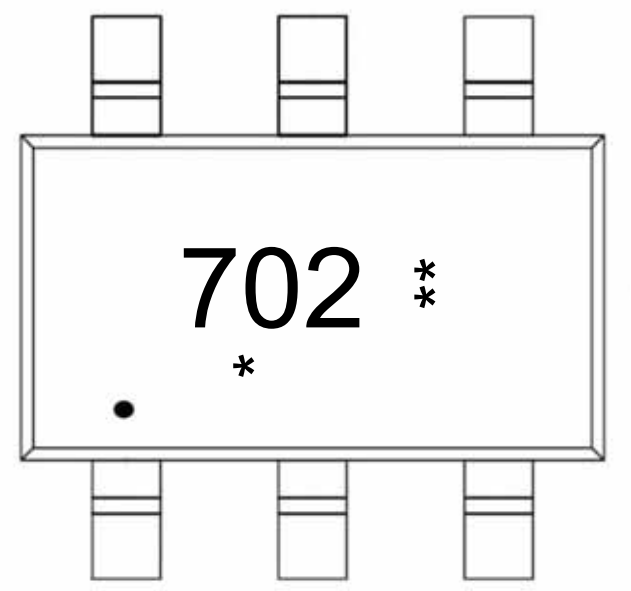
SOT-363-6L



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	2.15	2.45
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	1.00

Marking Instructions



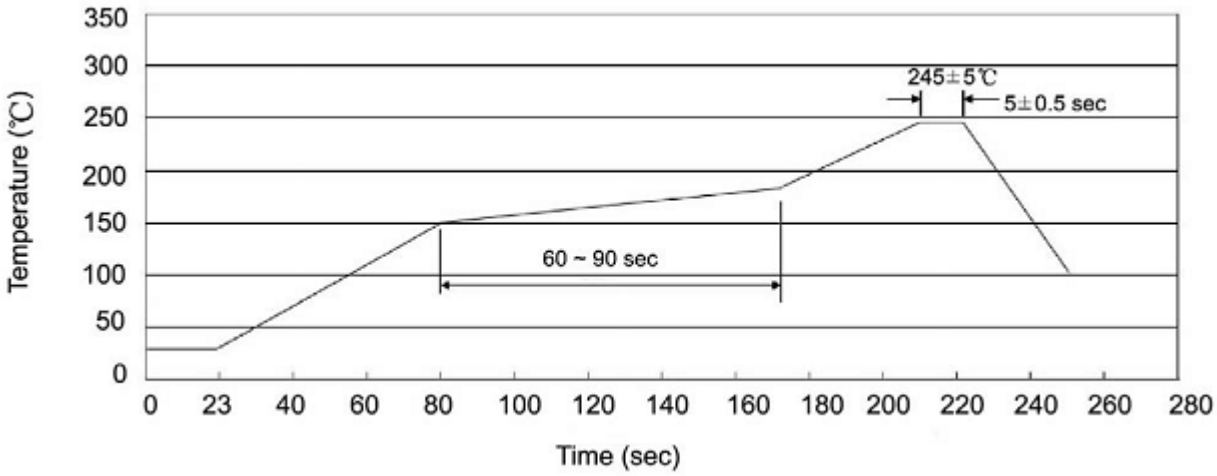
Note:

● : "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:25~150 ℃, Time:60~90sec.

2.Peak Temp.:245±5℃, Duration:5±0.5sec.

3.Cooling Speed: 2~10℃/sec.

Resistance to Soldering Heat Test Conditions

Temp.:260±5℃ 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″ ×8	180×120×180	385×257×392

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