

Descriptions

CT7N65SDP is N-CHANNEL MOSFET in a TO-252 Plastic Package.

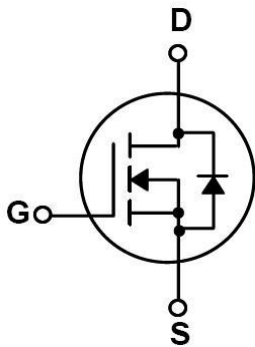
Features

- Low gate charge
- Low Crss
- Fast switching
- Have good Electromagnetic Interference Performance
- Halogen-free product

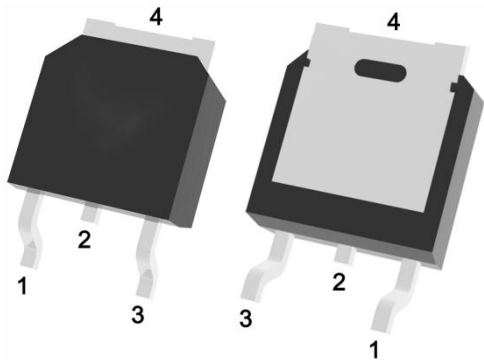
Applications

These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

Equivalent Circuit



Pinning



PIN1: G PIN 2: D PIN 3: S PIN 4: D

Marking

See Marking Instructions.

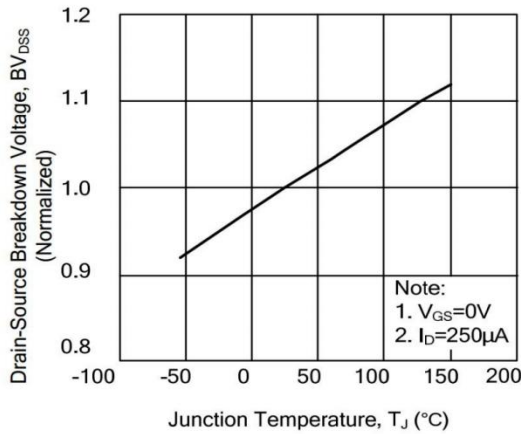
Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	650	V
Drain Current	$I_D(T_c=25^{\circ}\text{C})$	7.0	A
Drain Current	$I_D(T_c=100^{\circ}\text{C})$	4.4	A
Drain Current - Pulsed	I_{DM}	28	A
Gate-Source Voltage	V_{GS}	± 30	V
Single Pulsed Avalanche Energy	E_{AS}	425	mJ
Avalanche Current	I_{AR}	9.9	A
Power Dissipation	$P_D(T_c=25^{\circ}\text{C})$	100	W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to 150	$^{\circ}\text{C}$
Junction to Ambient	$R_{\theta JA}$	110	$^{\circ}\text{C/W}$
Junction to Case	$R_{\theta JC}$	1.25	$^{\circ}\text{C/W}$

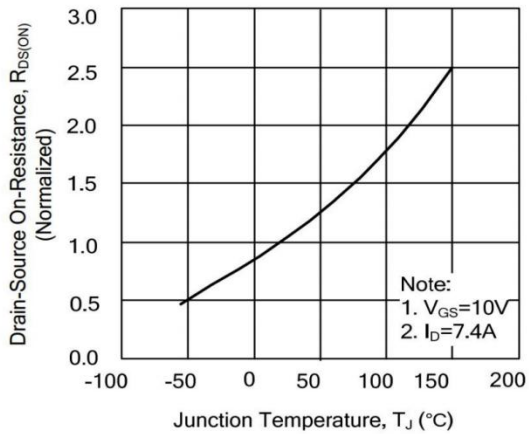
Electrical Characteristics(Ta=25°C)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DS}	$V_{GS}=0V$ $I_D=250\mu A$	650	690		V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=650V$ $V_{GS}=0V$			1.0	μA
Gate-Body Leakage Current Forward	I_{GSS}	$V_{GS}=\pm 30V$ $V_{DS}=0V$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}$ $I_D=250\mu A$	2.0	3.2	4.0	V
Static Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=10V$ $I_D=3.5A$		1.1	1.5	Ω
Input Capacitance	C_{iss}	$V_{DS}=25V$ $V_{GS}=0V$ $f=1.0MHz$		1000		pF
Output Capacitance	C_{oss}			180		
Reverse Transfer Capacitance	C_{rss}			4		
Total Gate Charge	Q_G	$V_{DS}=520V, I_D=7.0A,$ $V_{GS}=10V$		30		nC
Gate-Source Charge	Q_{GS}			10		
Gate-Drain Charge	Q_{GD}			21		
Turn-On Delay Time	$t_{d(on)}$	$V_{DD}=325V$ $I_D=7.0A$ $R_G=25\Omega$ $V_{GS}=10V$		52		ns
Turn-On Rise Time	t_r			160		
Turn-Off Delay Time	$t_{d(off)}$			400		
Turn-Off Fall Time	t_f			190		
Drain-Source Diode Forward Voltage	V_{SD}	$V_{GS}=0V, I_S=7.0A$			1.4	V

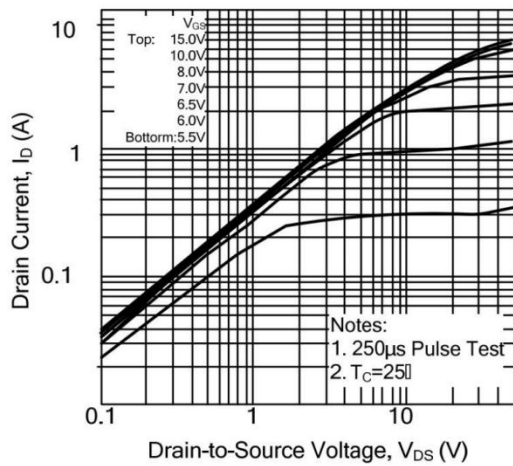
Electrical Characteristic Curve



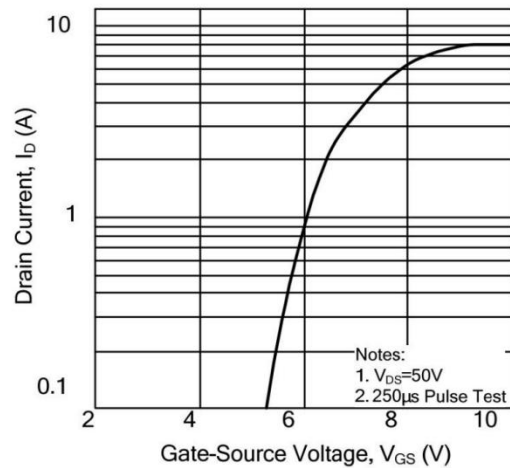
1. Breakdown Voltage Variation vs. Junction Temperature



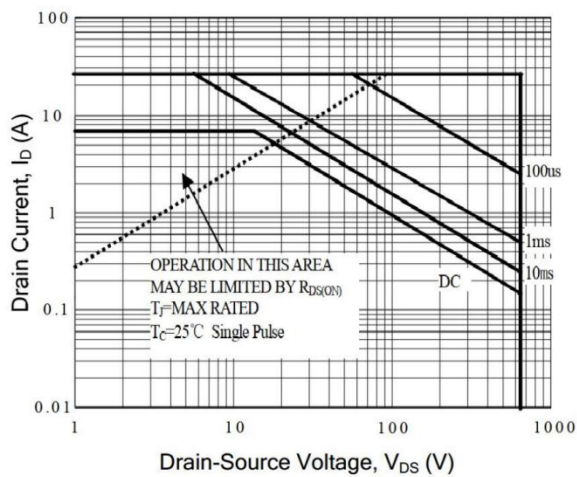
2. On-Resistance Variation vs. Junction Temperature



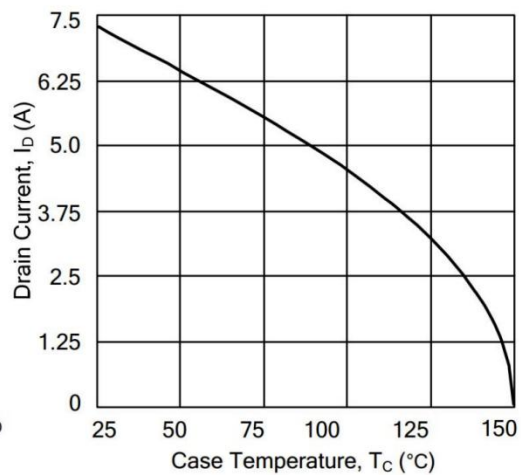
3. On-State Characteristics



4. Transfer Characteristics



5. Safe Operating Area



6. Maximum Drain Current vs. Case Temperature

Marking Instructions



Note:

COT: Company Logo.

7N65S: Product Type.

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

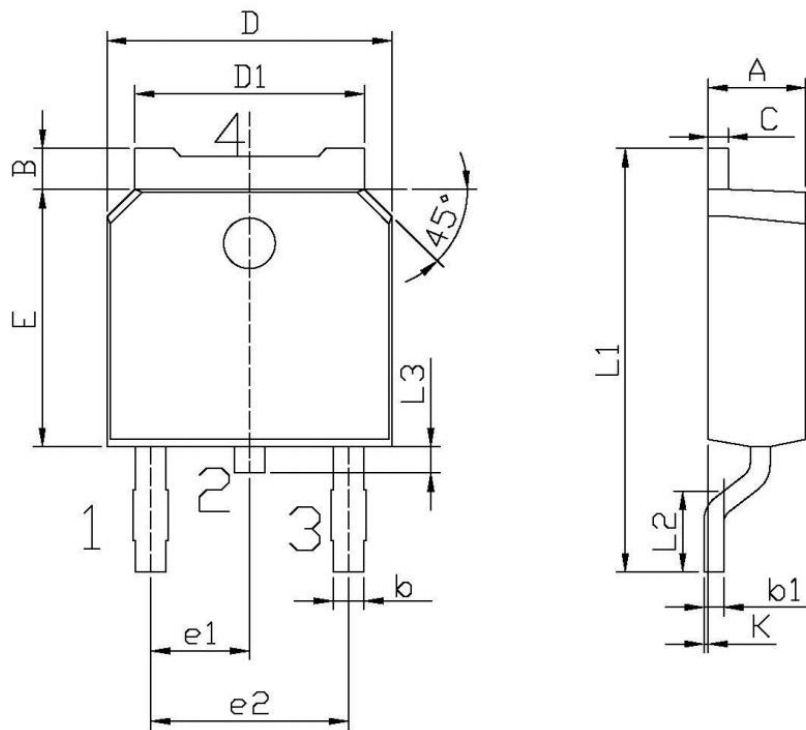
Packaging SPEC

BULK AND TUBE INFOMATIONS

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
TO-252	2,500	2	5,000	6	30,000	13" × 16	360×360×50	380×335×366

Package Type	Units					Dimension (unit: mm ³)		
	Units/Tube	Tubes/Inner Box	Units/Inner Box	Inner Boxes/Outer Box	Units/Outer Box	Tube	Inner Box	Outer Box
TO-251/252	75	48	3,600	5	18,000	526×20.5×5.25	555×164×50	575×290×180

Package Outline Dimensions



单位：mm

Symbol	Dimensions In Millimeters		Symbol	Dimensions In Millimeters	
	Min	Max		Min	Max
A	2.20	2.40	E	5.95	6.25
B	0.95	1.25	e1	2.24	2.34
b	0.70	0.90	e2	4.43	4.73
b1	0.45	0.55	L1	9.85	10.35
C	0.45	0.55	L2	1.70	2.00
D	6.45	6.75	L3	0.60	0.90
D1	5.10	5.50	K	0.00	0.10

TO-252