Description

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

Applications

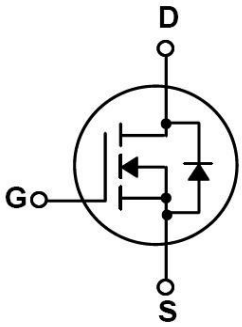
These devices are well suited for high efficiency switching DC/DC converters and switch mode power supplies.

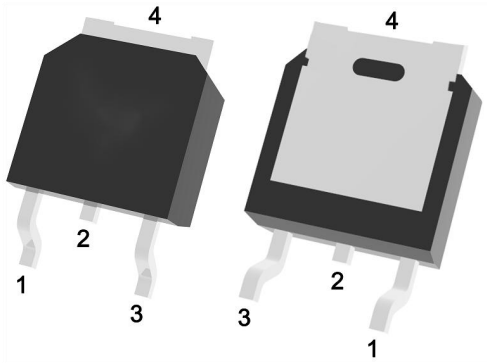
Features

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

V_{DSS}	$R_{DS(on)}$(Typ)	I_D
650V	1.1Ω	7A

Equivalent Circuit & Pinning





PIN1：G　PIN 2：D　PIN 3：S　PIN 4：D

Marking

See Marking Instructions.

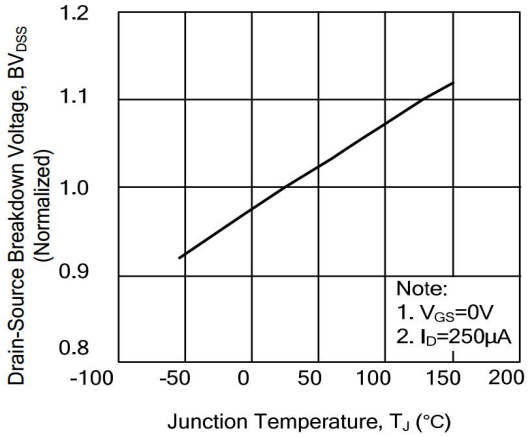
Absolute Maximum Ratings(Ta=25℃)

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

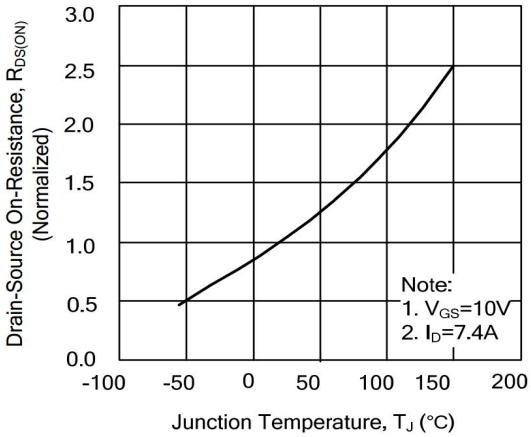
Electrical Characteristics(Ta=25℃)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	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}=±30V, V_{DS}=0V			±100	nA
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	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=25Ω 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} = 0 V, I_S = 7.0A			1.4	V

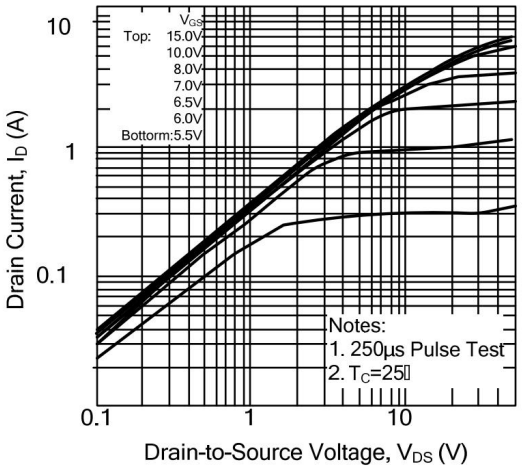
Electrical Characteristic Curve



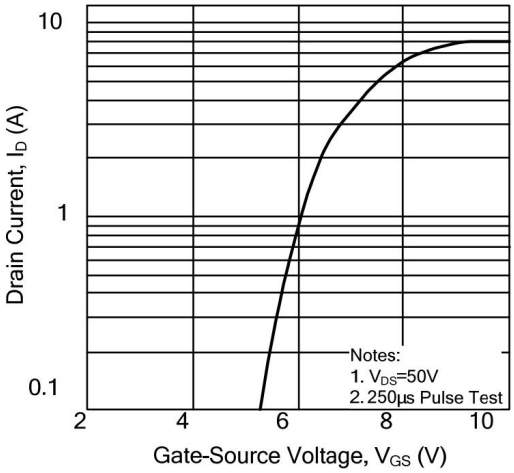
1. Breakdown Voltage Variation vs. Junction Temperature



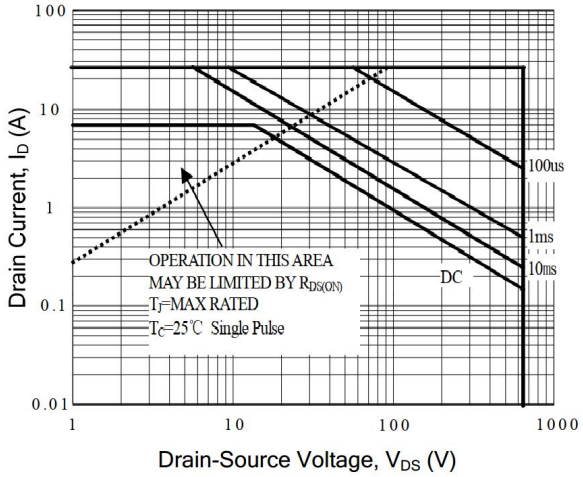
2. On-Resistance Variation vs. Junction Temperature



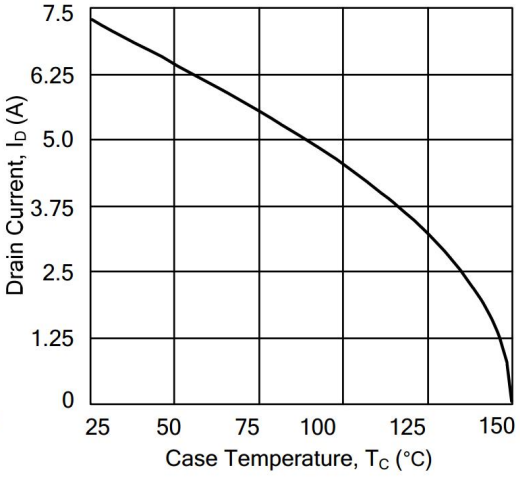
3. On-State Characteristics



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 No.

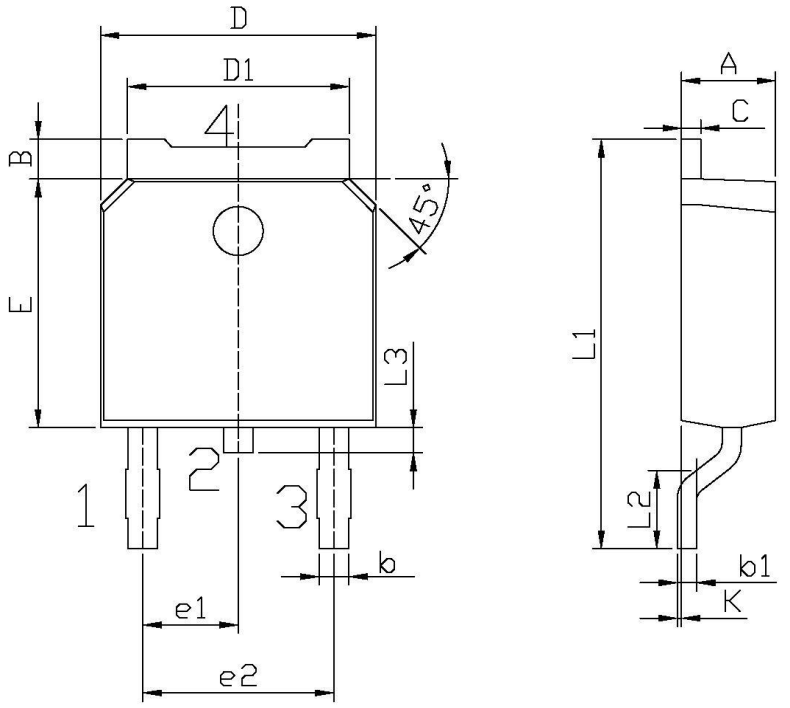
Packaging SPEC.

BULK AND TUBE INFOMATIONS

Package Type	Units					Dimension (unit：mm³)		
	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：mm³)		
	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