公司型号	工业型号	封装形式	H	包装规格	每卷数量	每箱数量
H01H14B H01H14D	NCE01H14D	TO-263 D^2PAK	HAOHAI	载带卷盘包装	800Pcs	8000Pcs

I_D=140A
V_{DS}=100V
$R_{DS(on)}$=5.5mΩ

■DESCRIPTION

The H01H14B（H01H14D）
uses advanced trench technology
and design to provide excellent RDS(ON) with
low gate charge. It can be used in
a wide variety of applications.

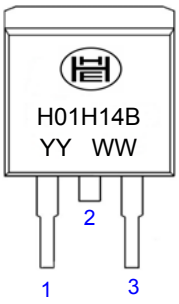
■GENERAL FEATURES

I_D=140A, V_{DS}=100V
$R_{DS(ON)}$<6.8mΩ @ V_{GS}=10V (Typ: 5.5mΩ)
High density cell design for ultra low RDS(ON)
Fully characterized Avalanche voltage and current
Good stability and uniformity with high EAS
Excellent package for good heat dissipation
Special process technology for high ESD capability
100% UIS TESTED ! 100% ΔVDS TESTED !

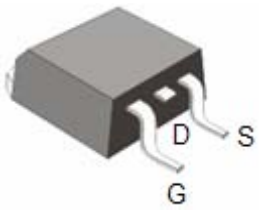
■Application

Power switching application
Hard Switched and High Frequency Circuits
Uninterruptible Power Supply

H01H14B Series Pin Assignment

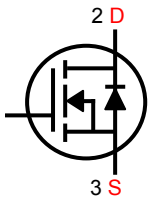


SMD
D^2PAK
TO-263-2L



2-Lead Plastic TO-263
Package Code: B
Pin 1: Gate
Pin 2: Drain
Pin 3: Source

Series Symbol:



■ Absolute Maximum Ratings (T_C=25℃ unless otherwise noted)

Parameter	Symbol	Limit	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	±20	
Drain Current-Continuous	I_D	140	A
Drain Current-Continuous (T_C=100℃)		97	
Pulsed Drain Current	I_{DM}	550	
Maximum Power Dissipation	P_D	330	W
Derating factor		2.2	W/℃
Single pulse avalanche energy (Note 5)	E_{AS}	1200	mJ
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55~+175	℃

■ Thermal Characteristic

Parameter	Symbol	Limit	Unit
Thermal Resistance,Junction-to-Case (Note 2)	$R_{\theta Jc}$	0.45	℃/W

■ Electrical Characteristics (T_C=25℃ unless otherwise noted)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
■ Off Characteristics						
Drain-Source Breakdown Voltage	BV_{DSS}	V_{GS}=0V, I_D=250μA	100	110	--	V
Zero Gate Voltage Drain Current	I_{DSS}	V_{DS}=100V, V_{GS}=0V	--	--	1	μA
Gate-Body Leakage Current	I_{GSS}	V_{GS}=±20V, V_{DS}=0V	--	--	±100	nA
■ On Characteristics (Note 3)						
Gate Threshold Voltage	$V_{GS(th)}$	V_{DS}=V_{GS}, I_D=250μA	2	3.2	4	V
Drain-Source On-State Resistance	$R_{DS(ON)}$	V_{GS}=10V, I_D=40A	--	5.5	6.8	mΩ
Forward Transconductance	g_{FS}	V_{DS}=50V, I_D=40A	170	--	--	S
■ On Characteristics (Note 4)						
Input Capacitance	C_{lss}	V_{DS}=25V V_{GS}=0V F=1.0MHz	--	10500	--	pF
Output Capacitance	C_{oss}		--	914	--	
Reverse Transfer Capacitance	C_{rss}		--	695	--	
■ Switching Characteristics (Note 4)						
Turn-on Delay Time	$t_{d(on)}$	V_{DD}=65V I_D=40A V_{GS}=10V R_{GEN}=2.5Ω	--	25	--	nS
Turn-on Rise Time	t_r		--	100	--	
Turn-Off Delay Time	$t_{d(off)}$		--	65	--	
Turn-Off Fall Time	t_f		--	77	--	
Total Gate Charge	Q_g	V_{DS}=44V I_D=40A V_{GS}=10V	--	120	--	nC
Gate-Source Charge	Q_{gS}		--	30	--	
Gate-Drain Charge	Q_{gd}		--	35	--	
■ Drain-Source Diode Characteristics						
Diode Forward Voltage (Note 3)	V_{SD}	V_{GS}=0V, I_S=40A	--	0.85	1.2	V
Diode Forward Current (Note 2)	I_S	--	--	--	40	A
Reverse Recovery Time	t_{rr}	T_J=25℃, I_F=40A di/dt=100A/μs (Note3)	--	45	70	nS
Reverse Recovery Charge	Q_{rr}		--	80	120	nC
Forward Turn-On Time	t_{on}	Intrinsic turn-on time is negligible (turn-on is dominated by LS+LD)				

Notes:

1、Repetitive Rating: Pulse width limited by maximum junction temperature.

2、Surface Mounted on FR4 Board, t ≤10sec.

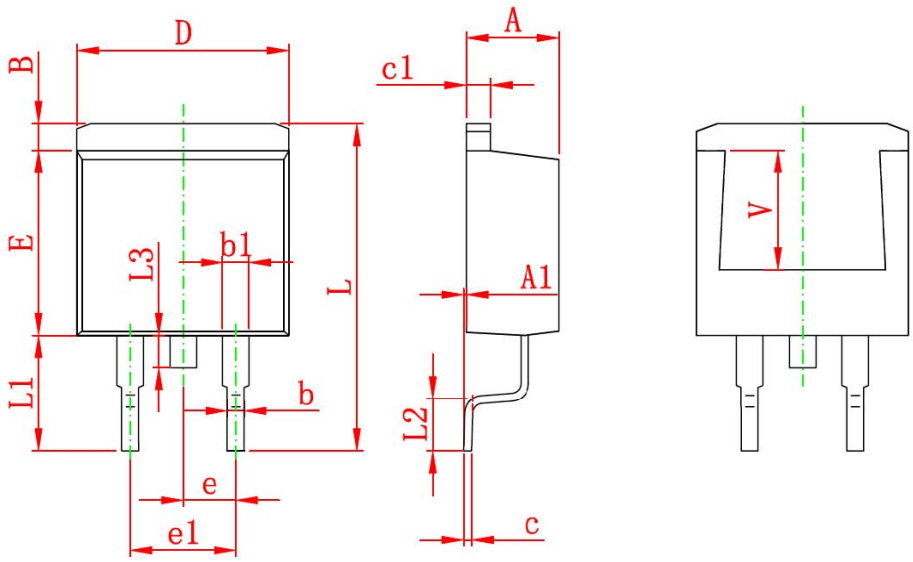
3、Pulse Test: Pulse Width ≤300μs, Duty Cycle ≤2%

4、Guaranteed by design, not subject to production

5、EAS condition: T_j=25 ℃, V_{DD}=50V, V_G=10V, L=1mH, R_g=25Ω

PACKAGE DIMENSIONS

■ TO-263-2L（D^2PAK）PACKAGE INFORMATION（TO-263-2L封装尺寸数据）



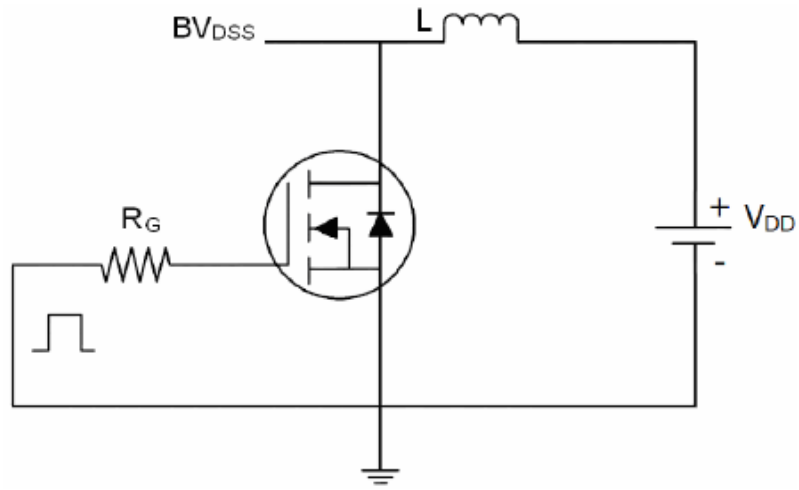
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	4.47	4.67	0.175	0.184
A1	0	0.15	0	0.006
B	1.17	1.37	0.046	0.054
b	0.71	0.91	0.028	0.036
b1	1.17	1.37	0.046	0.054
c	0.31	0.53	0.012	0.021
c1	1.17	1.37	0.046	0.054
D	10.01	10.31	0.394	0.406
E	8.5	8.9	0.335	0.35
e	2.540 (TYP.)		0.100 (TYP.)	
e1	4.98	5.18	0.196	0.204
L	15.05	15.45	0.593	0.608
L1	5.08	5.48	0.2	0.216
L2	2.34	2.74	0.092	0.108
L3	1.3	1.7	0.051	0.067
V	5.600 REF.		0.220 REF.	

■ 包装规格 Packaging Specifications

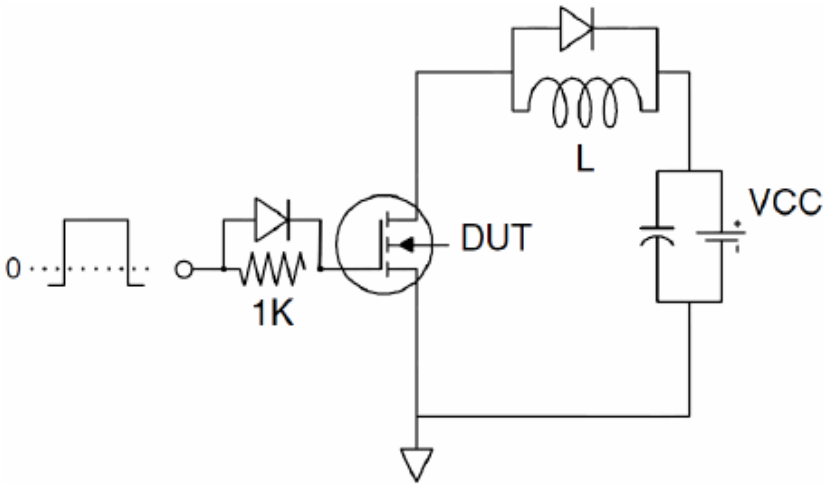
TO-263 D^2PAK	一、管装，每管50只，每盒1000只，每箱10000只 (50Pcs/Tub, 1Kpcs/BOX, 10Kpcs/Carton)
	二、载带卷盘包装，每卷盘800只，每盒1卷盘，每箱8000只 (800Pcs/Reel, 8Kpcs/Carton)

Test circuit

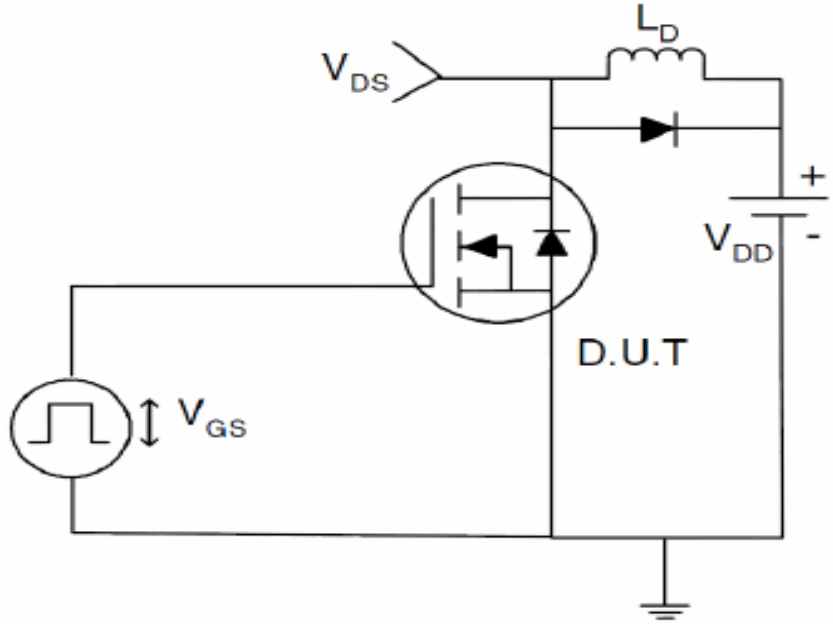
1: E_{AS} test Circuits



2: Gate charge test Circuit:



3: Switch Time Test Circuit



TYPICAL ELECTRICAL AND THERMAL CHARACTERISTICS (Curves)

Fig-1: Output Characteristics

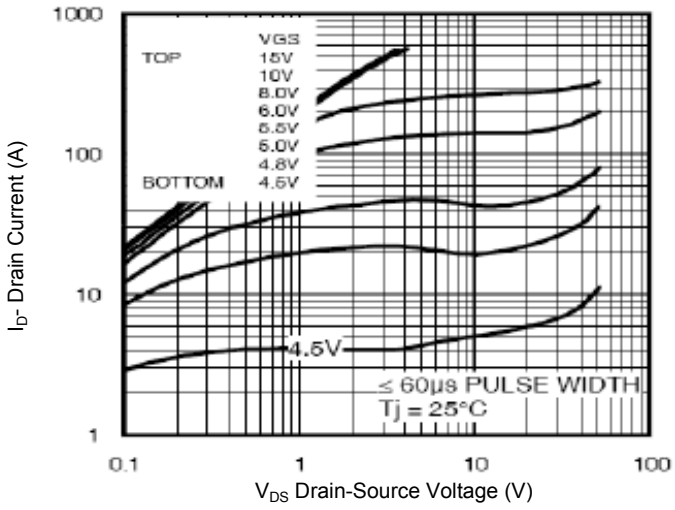


Fig-2: Transfer Characteristics

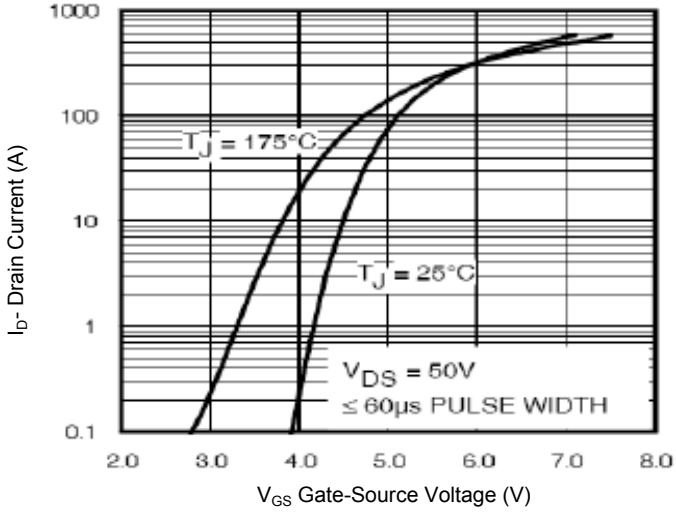


Fig-3: Rdson- Drain Current

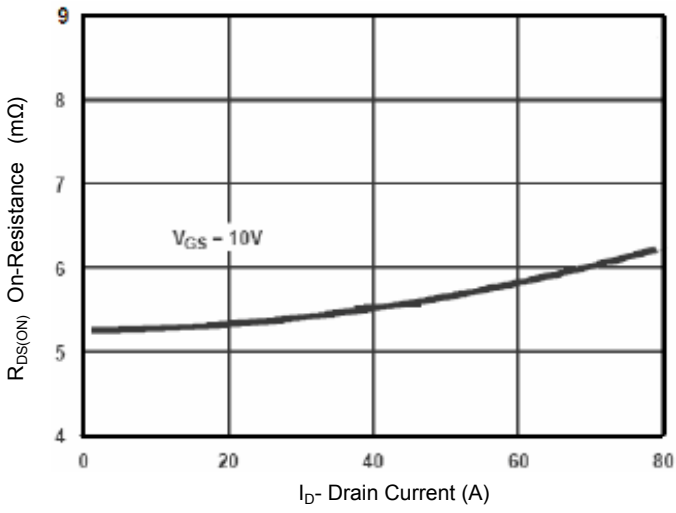


Fig-4: Rdson-JunctionTemperature

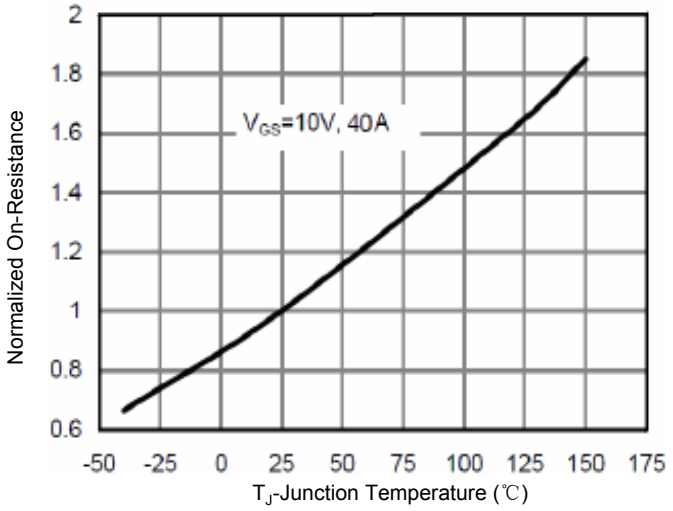


Fig-5: Gate Charge

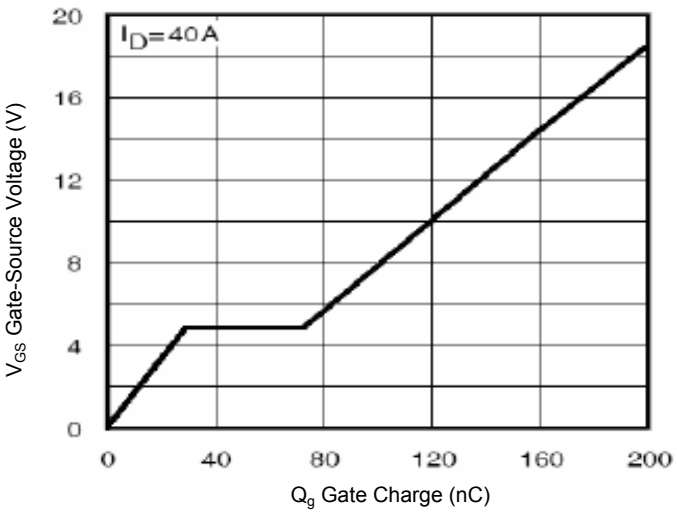


Fig-6: Source- Drain Diode Forward

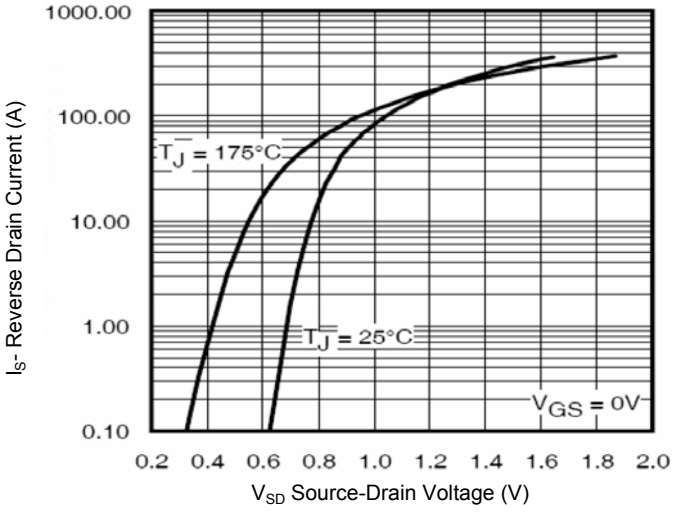


Fig-7: Capacitance vs V_{DS}

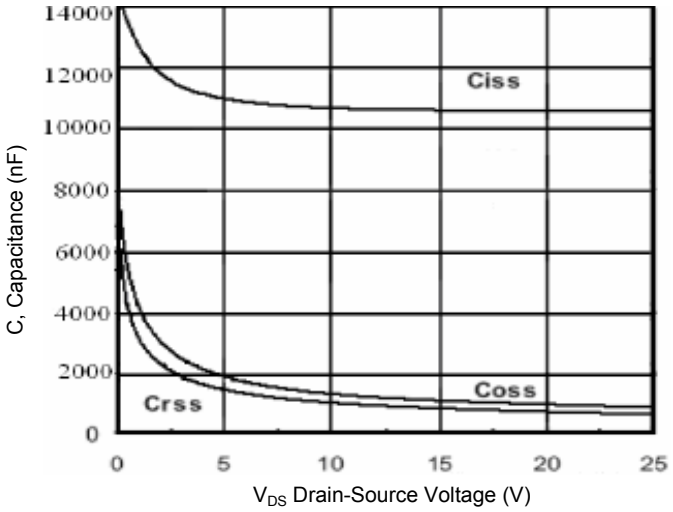


Fig-9: BV_{DSS} vs Junction Temperature

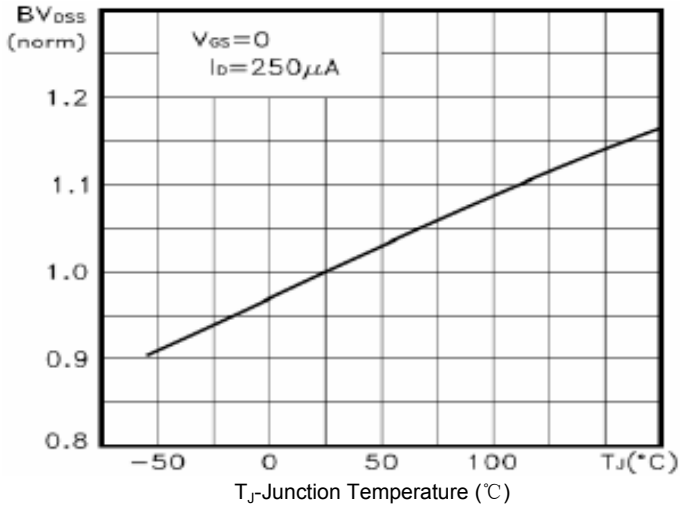


Fig-8: Safe Operation Area

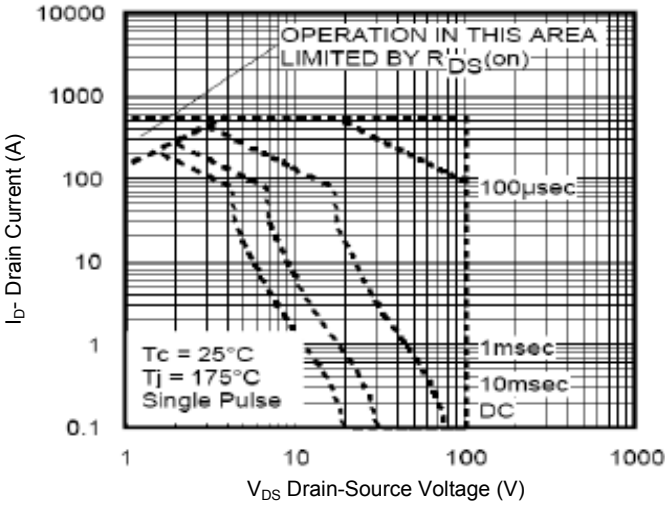


Fig-10: Power De-rating

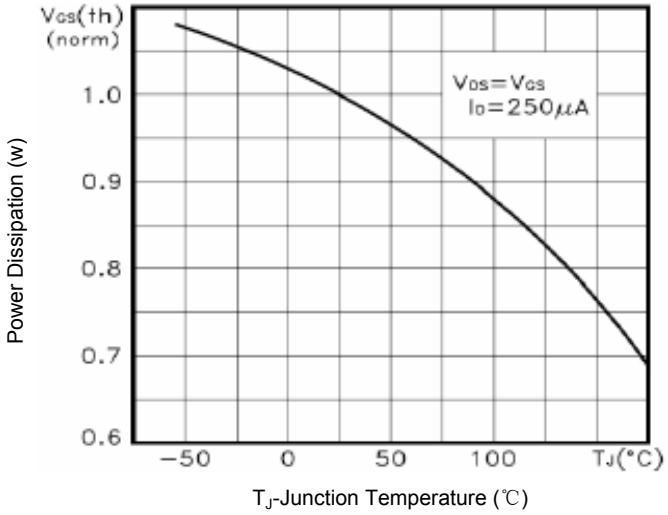
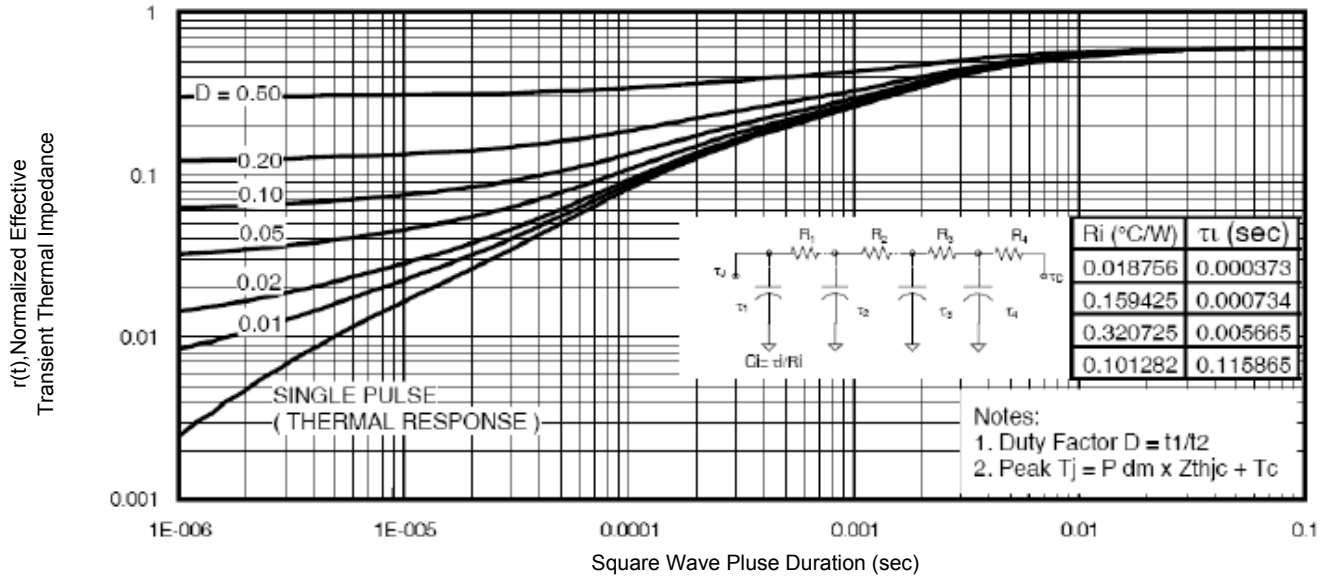


Fig-11: Normalized Maximum Transient Thermal Impedance



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