



SPP9527

P-Channel Enhancement Mode MOSFET

DESCRIPTION

The SPP9527 is the P-Channel logic enhancement mode power field effect transistors are produced using high cell density , DMOS trench technology.

This high density process is especially tailored to minimize on-state resistance.

These devices are particularly suited for low voltage application , notebook computer power management and other battery powered circuits where high-side switching .

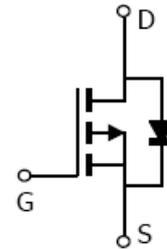
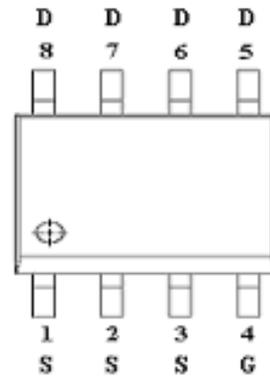
FEATURES

- ◆ -40V/-10A, $R_{DS(ON)}=38m\Omega@V_{GS}=-10V$
- ◆ -40V/-8A, $R_{DS(ON)}=46m\Omega@V_{GS}=-4.5V$
- ◆ Super high density cell design for extremely low $R_{DS(ON)}$
- ◆ Exceptional on-resistance and maximum DC current capability
- ◆ SOP-8 package design

APPLICATIONS

- Power Management in Note book
- Portable Equipment
- Battery Powered System
- DC/DC Converter
- Load Switch
- DSC
- LCD Display inverter

PIN CONFIGURATION(SOP-8)



PART MARKING



A : Lot Code
B : Date Code



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PIN DESCRIPTION

Pin	Symbol	Description
1	S	Source
2	S	Source
3	S	Source
4	G	Gate
5	D	Drain
6	D	Drain
7	D	Drain
8	D	Drain

ORDERING INFORMATION

Part Number	Package	Part Marking
SPP9527S8RGB	SOP-8	SPP9527

※ SPP9527S8RGB 13" Tape Reel ; Pb – Free ; Halogen – Free

ABSOLUTE MAXIMUM RATINGS

($T_A=25^{\circ}\text{C}$ Unless otherwise noted)

Parameter	Symbol	Typical	Unit	
Drain-Source Voltage	V_{DSS}	-40	V	
Gate –Source Voltage	V_{GSS}	± 20	V	
Continuous Drain Current($T_J=150^{\circ}\text{C}$)	I_D	$T_A=25^{\circ}\text{C}$	-10	A
		$T_A=70^{\circ}\text{C}$	-8	
Pulsed Drain Current	I_{DM}	-30	A	
Continuous Source Current(Diode Conduction)	I_S	-2.3	A	
Power Dissipation	P_D	$T_A=25^{\circ}\text{C}$	2.8	W
		$T_A=70^{\circ}\text{C}$	1.8	
Operating Junction Temperature	T_J	-55/150	$^{\circ}\text{C}$	
Storage Temperature Range	T_{STG}	-55/150	$^{\circ}\text{C}$	
Thermal Resistance-Junction to Ambient	$R_{\theta JA}$	70	$^{\circ}\text{C}/\text{W}$	



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ELECTRICAL CHARACTERISTICS

(TA=25°C Unless otherwise noted)

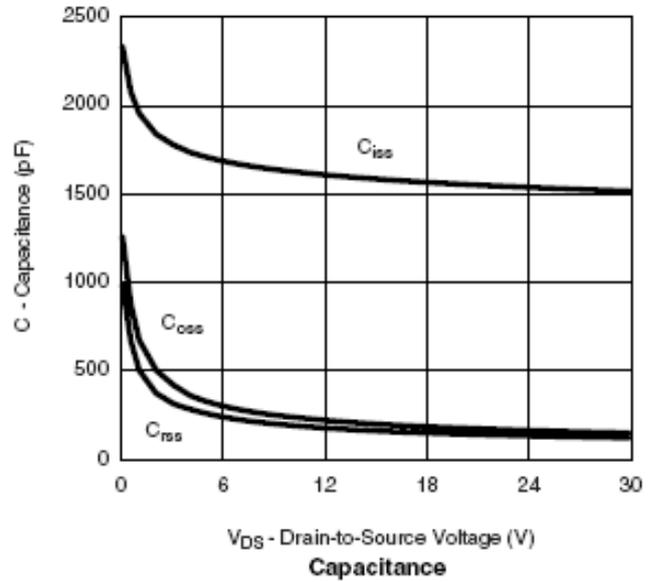
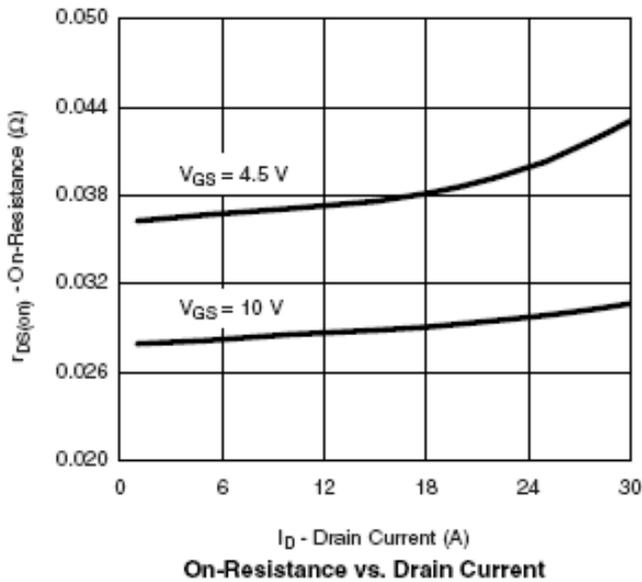
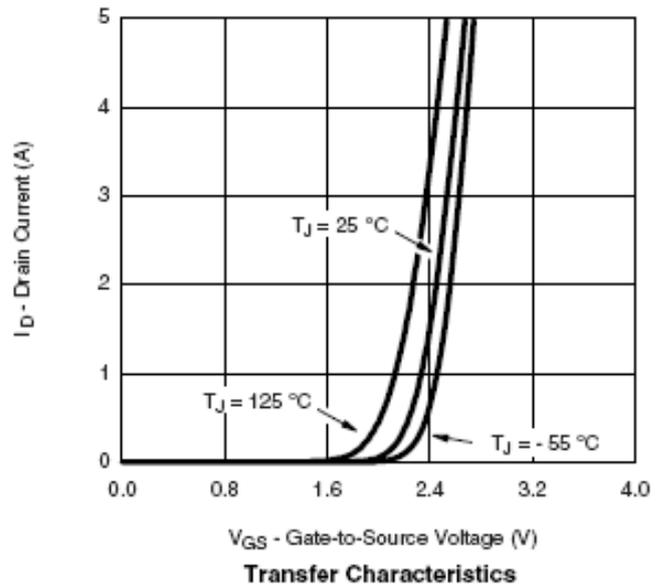
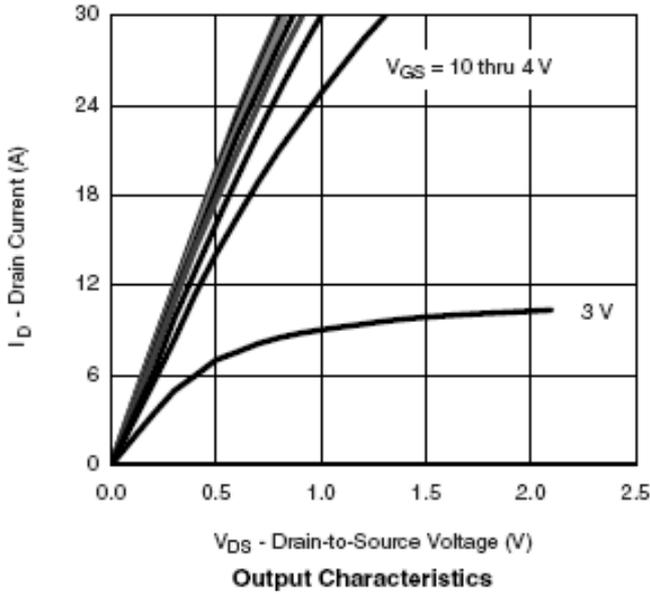
Parameter	Symbol	Conditions	Min.	Typ	Max.	Unit
Static						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$V_{GS}=0V, I_D=-250\mu A$	-40			V
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS}=V_{GS}, I_D=-250\mu A$	-0.8		-2.5	V
Gate Leakage Current	I_{GSS}	$V_{DS}=0V, V_{GS}=\pm 20V$			± 100	nA
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-36V, V_{GS}=0V$			-1	uA
		$V_{DS}=-36V, V_{GS}=0V$ $T_J=85^\circ C$			-10	
On-State Drain Current	$I_{D(on)}$	$V_{DS}=-5V, V_{GS}=-4.5V$	-10			A
Drain-Source On-Resistance	$R_{DS(on)}$	$V_{GS}=-10V, I_D=-10A$		0.032	0.038	Ω
		$V_{GS}=-4.5V, I_D=-8A$		0.036	0.046	
Forward Transconductance	g_{fs}	$V_{DS}=-15V, I_D=-5.7A$		13		S
Diode Forward Voltage	V_{SD}	$I_S=-2.3A, V_{GS}=0V$		-0.8	-1.2	V
Dynamic						
Total Gate Charge	Q_g	$V_{DS}=-20V, V_{GS}=-4.5V$ $I_D=-5.0A$		13	20	nC
Gate-Source Charge	Q_{gs}			4.5		
Gate-Drain Charge	Q_{gd}			6.5		
Input Capacitance	C_{iss}	$V_{DS}=-20V, V_{GS}=0V$ $f=1MHz$		1100		pF
Output Capacitance	C_{oss}			145		
Reverse Transfer Capacitance	C_{rss}			115		
Turn-On Time	$t_{d(on)}$	$V_{DD}=-20V, R_L=4\Omega$ $I_D=-5.0A, V_{GEN}=-4.5V$ $R_G=1\Omega$		40	80	nS
	t_r			55	100	
Turn-Off Time	$t_{d(off)}$			30	60	
	t_f			12	20	



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TYPICAL CHARACTERISTICS

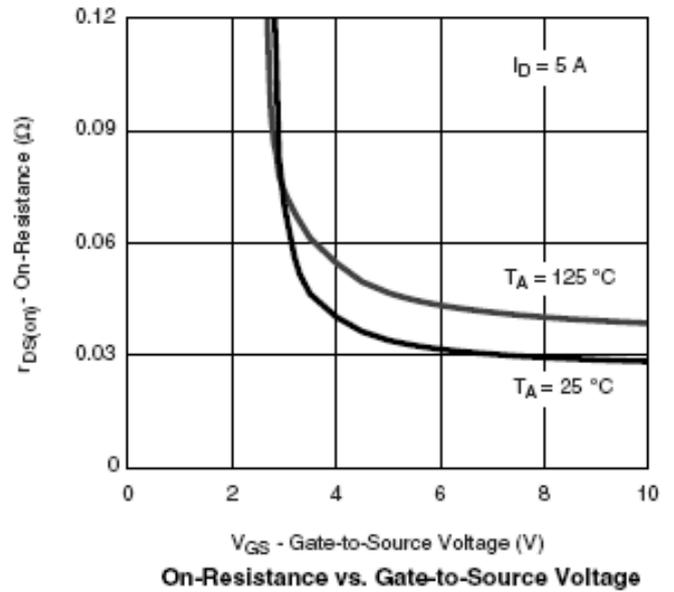
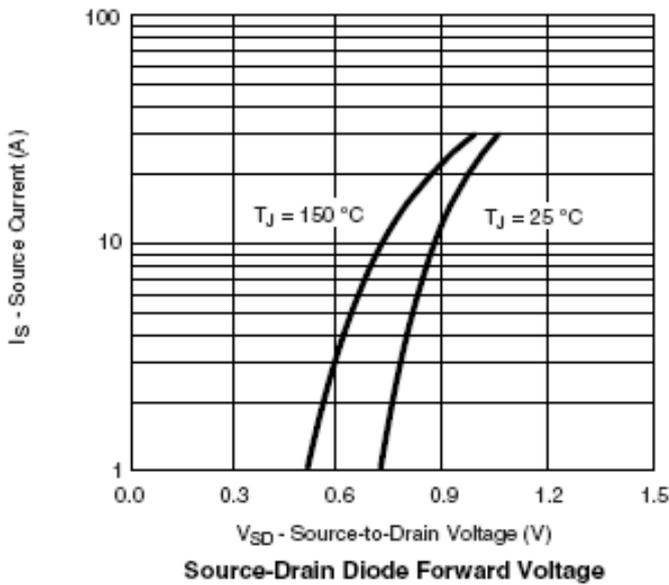
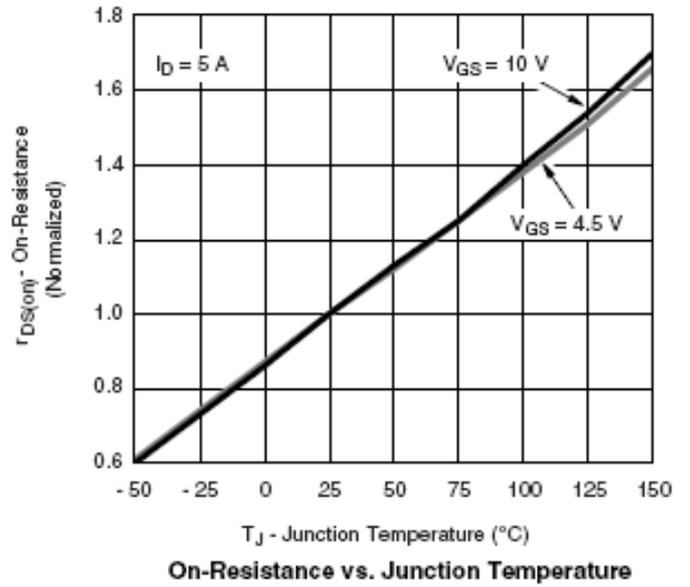
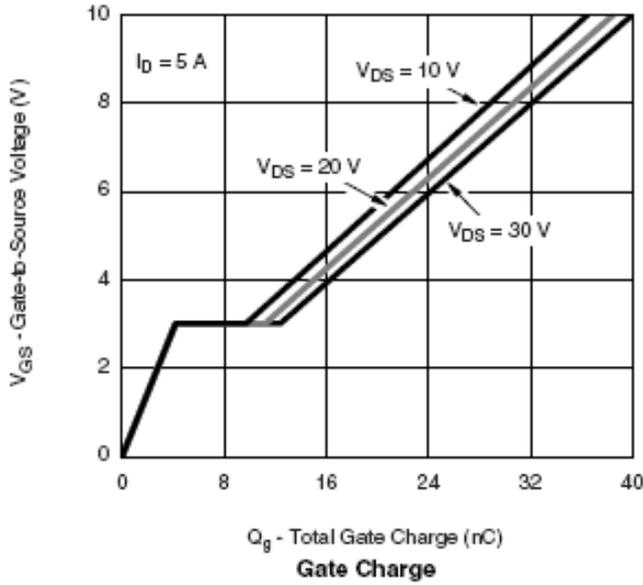




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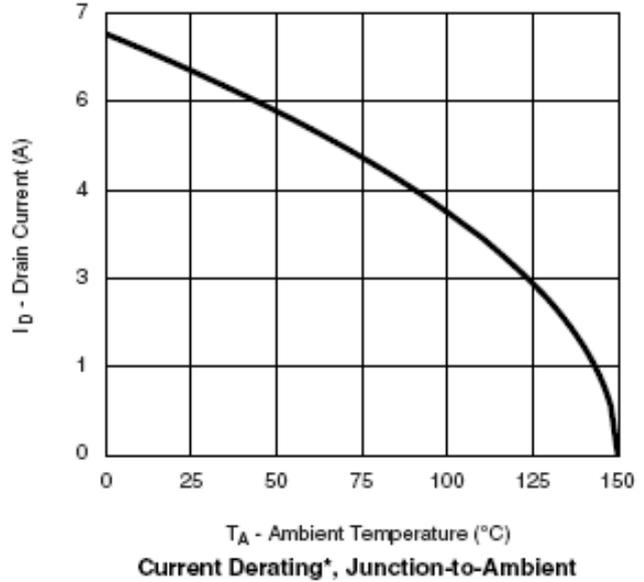
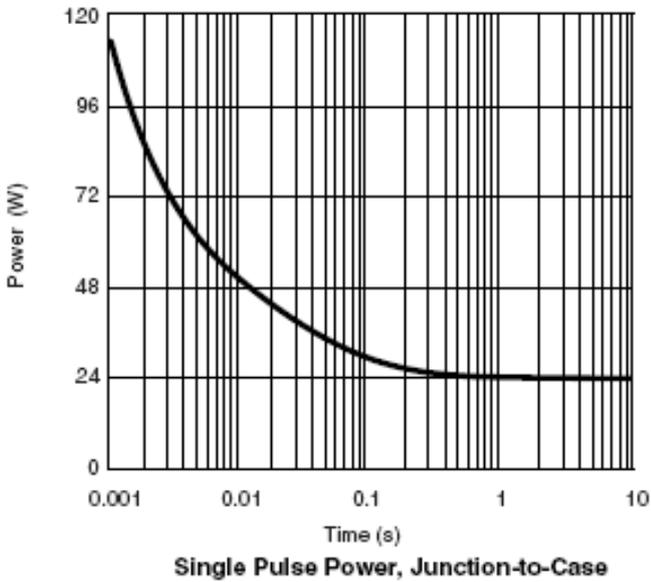
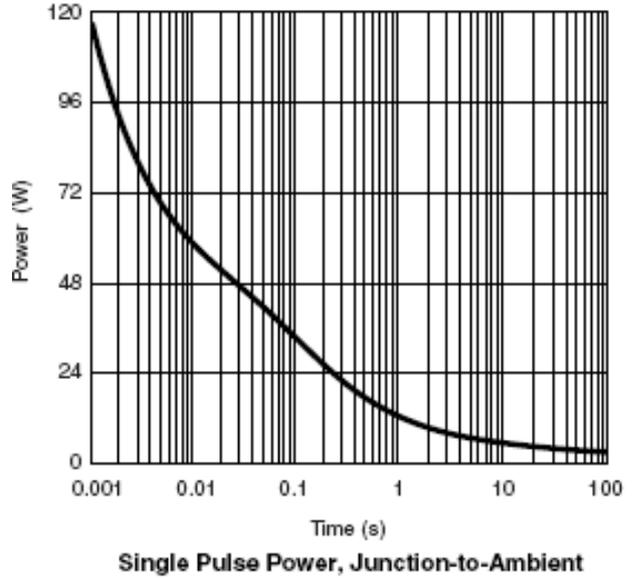
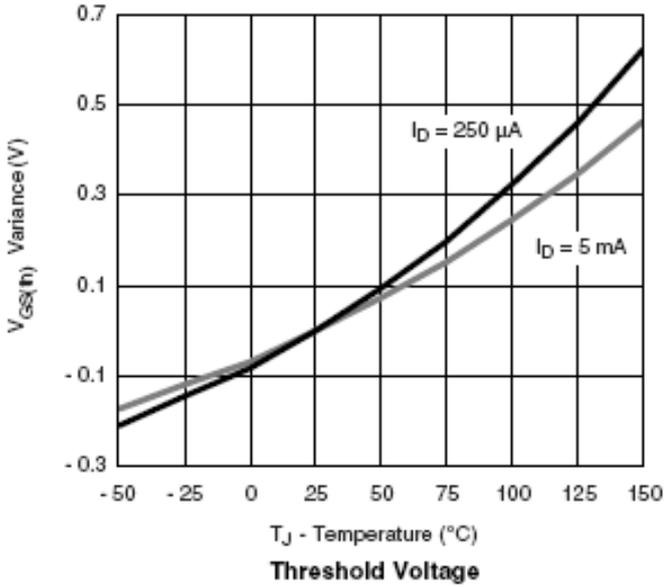
TYPICAL CHARACTERISTICS





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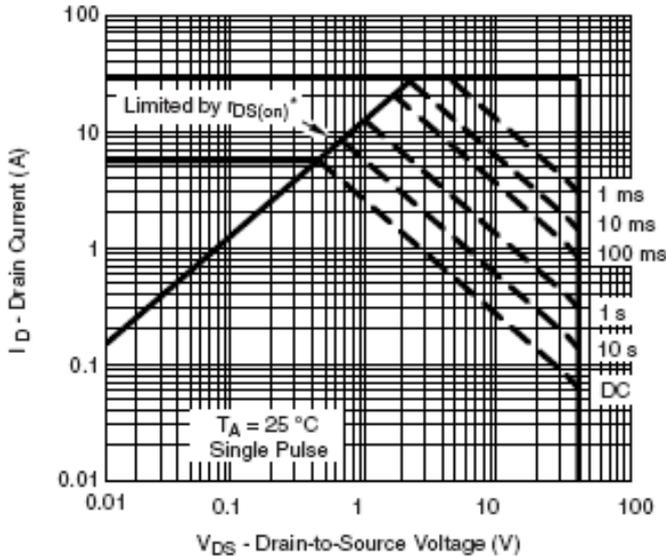




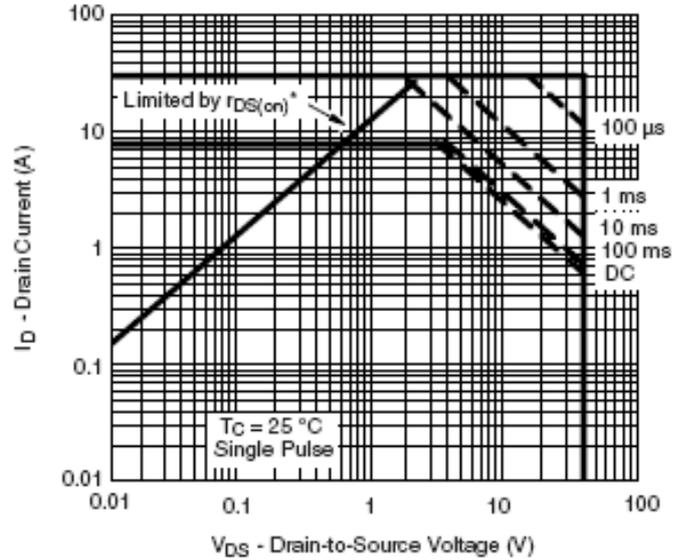
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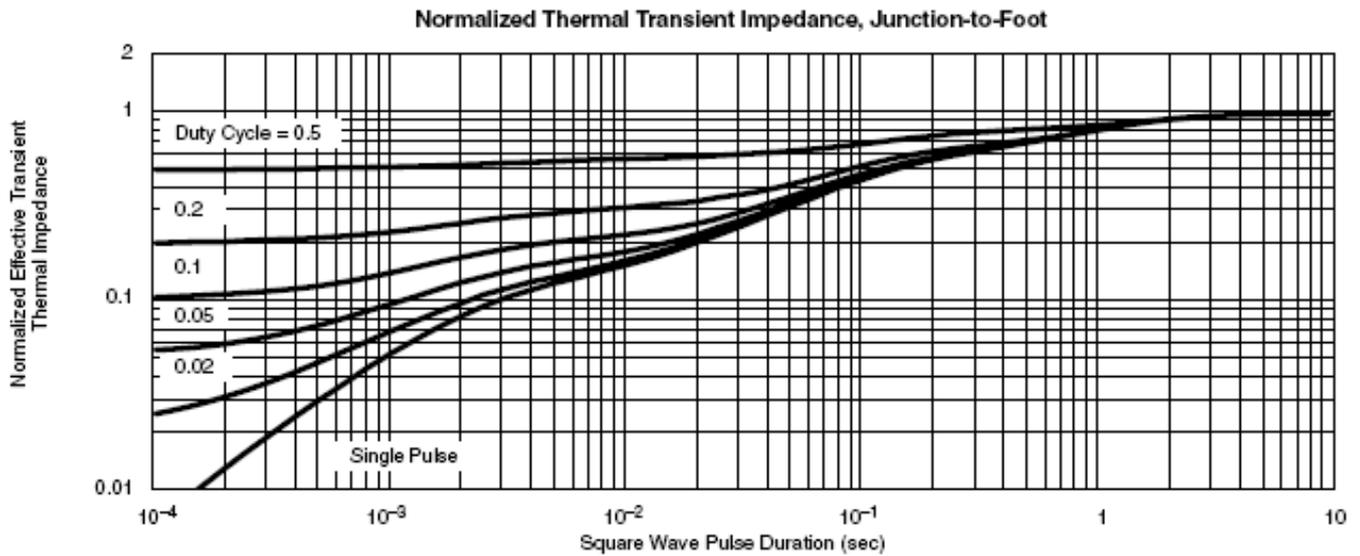
TYPICAL CHARACTERISTICS



* $V_{GS} >$ minimum V_{GS} at which $r_{DS(on)}$ is specified
Safe Operating Area, Junction-to-Ambient



* $V_{GS} >$ minimum V_{GS} at which $r_{DS(on)}$ is specified
Safe Operating Area, Junction-to-Case





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