



ACE4468B

N-Channel Enhancement Mode MOSFET

Electrical Characteristics

$T_A=25^{\circ}\text{C}$, unless otherwise specified.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS}=0\text{V}$, $I_D=250\mu\text{A}$	30			V
Zero gate voltage drain current	I_{DSS}	$V_{DS}=30\text{V}$, $V_{GS}=0\text{V}$			1	μA
Gate threshold voltage	$V_{GS(th)}$	$V_{GS}=V_{DS}$, $I_{DS}=250\mu\text{A}$	1.4	1.9	3	V
Gate leakage current	I_{GSS}	$V_{GS}=\pm 20\text{V}$, $V_{DS}=0\text{V}$			100	nA
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS}=10\text{V}$, $I_D=11.6\text{A}$		11	14	m Ω
		$V_{GS}=4.5\text{V}$, $I_D=10\text{A}$		15	22	
Forward transconductance	g_{FS}	$V_{DS}=5\text{V}$, $I_D=11.6\text{A}$		19		S
Diode forward voltage	V_{SD}	$I_{SD}=1\text{A}$, $V_{GS}=0\text{V}$		0.74	1.0	V
Maximum body-diode continuous current	I_S				2.6	A
Switching						
Total gate charge	Q_g	$V_{GS}=5\text{V}$, $V_{DS}=15\text{V}$, $I_D=11.6\text{A}$		7.65	9.95	nC
Gate-source charge	Q_{gs}			2.82	3.67	
Gate-drain charge	Q_{gd}			2.49	3.24	
Turn-on delay time	$t_{d(on)}$	$V_{GS}=10\text{V}$, $V_{DS}=15\text{V}$ $R_L=15\Omega$, $R_{GEN}=6\Omega$		13.92	27.84	ns
Turn-on rise time	t_r			2.64	5.28	
Turn-off delay time	$t_{d(off)}$			31.4	62.8	
Turn-off fall time	t_f			3.28	6.56	
Dynamic						
Input capacitance	C_{iss}	$V_{GS}=0\text{V}$, $V_{DS}=15\text{V}$, $f=1.0\text{MHz}$		886.01		pF
Output capacitance	C_{oss}			151		
Reverse transfer capacitance	C_{rss}			75.77		

Note :

A: The value of $R_{\theta JA}$ is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with $T_A=25^{\circ}\text{C}$. The value in any given application depends on the user's specific board design.

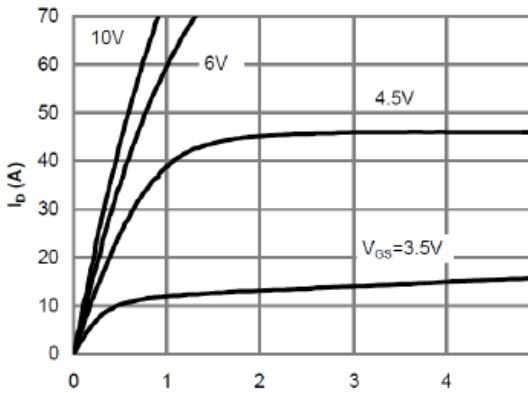
B: Repetitive rating, pulse width limited by junction temperature.

C: The current rating is based on the $t \leq 10\text{s}$ junction to ambient thermal resistance rating.

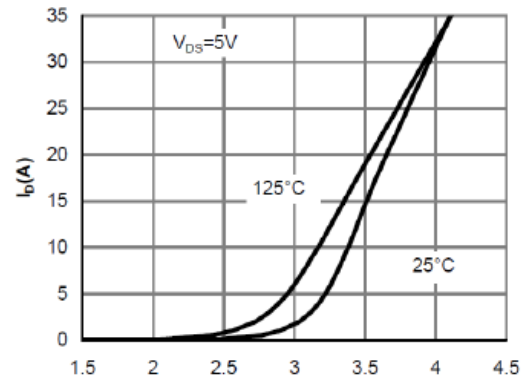


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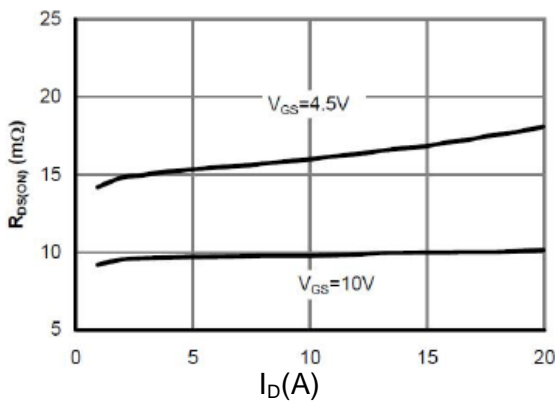
Typical Performance Characteristics



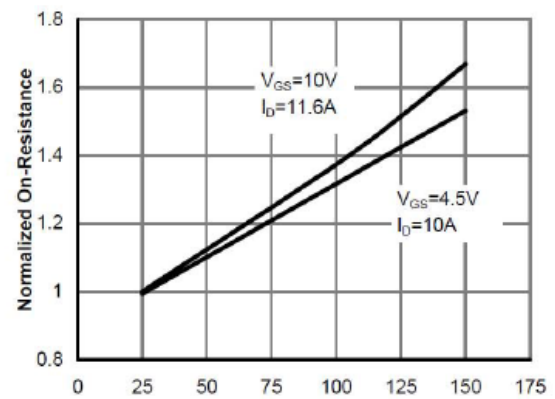
V_{DS} (Volts)
On-Region Characteristics



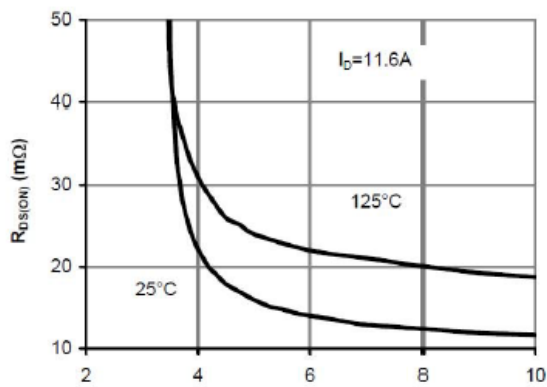
V_{GS} (Volts)
On-Region Characteristics



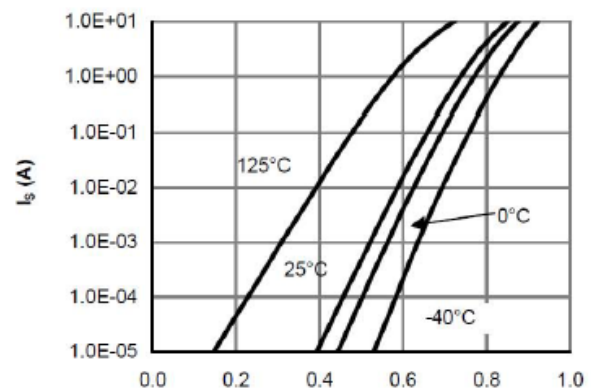
On-Resistance vs. Drain Current and Gate Voltage



On-Resistance vs. Junction Temperature



On-Resistance vs. Gate-Source Voltage

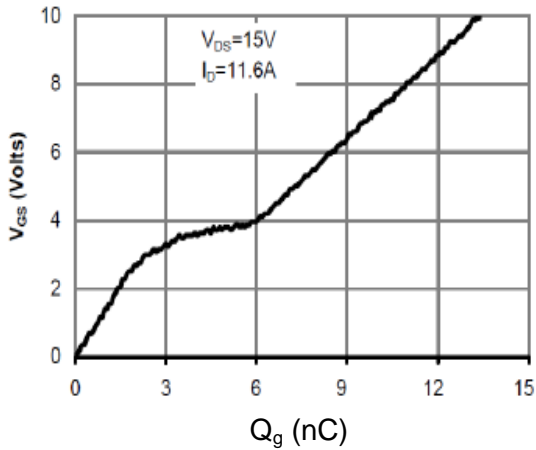


Body-Diode Characteristics

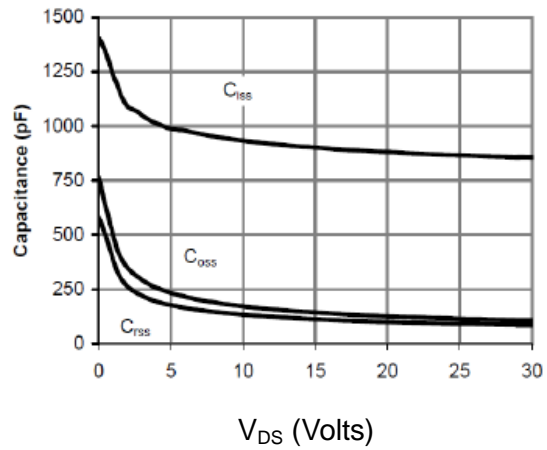


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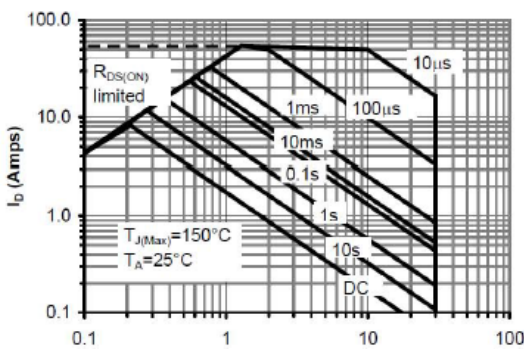
Typical Performance Characteristics



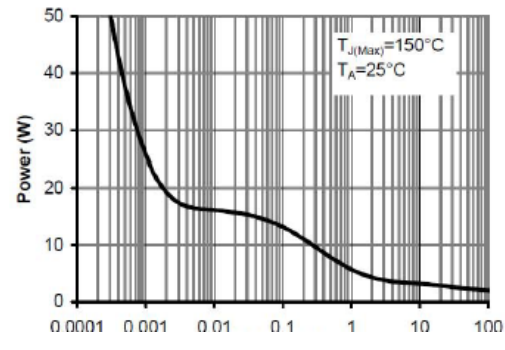
Gate-Charge Characteristics



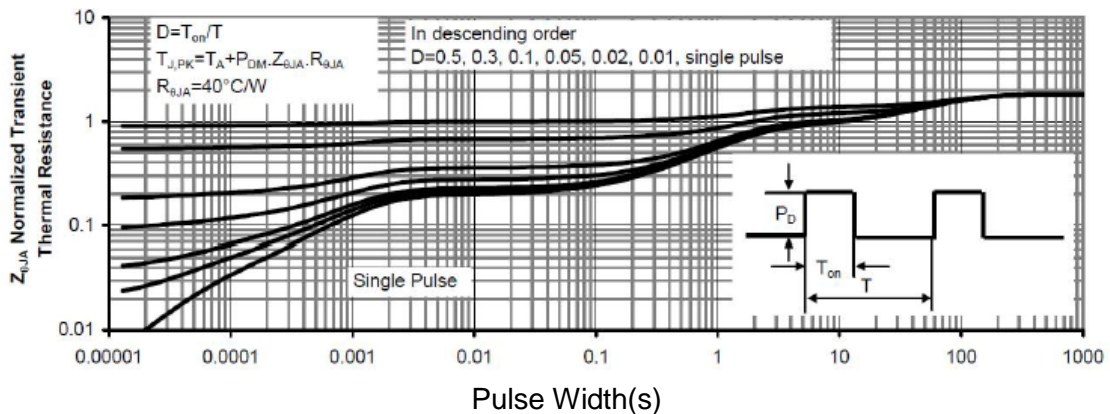
Capacitance Characteristics



Maximum Forward Biased Safe Operating Area



Single Pulse Power Rating Junction-to-Ambient



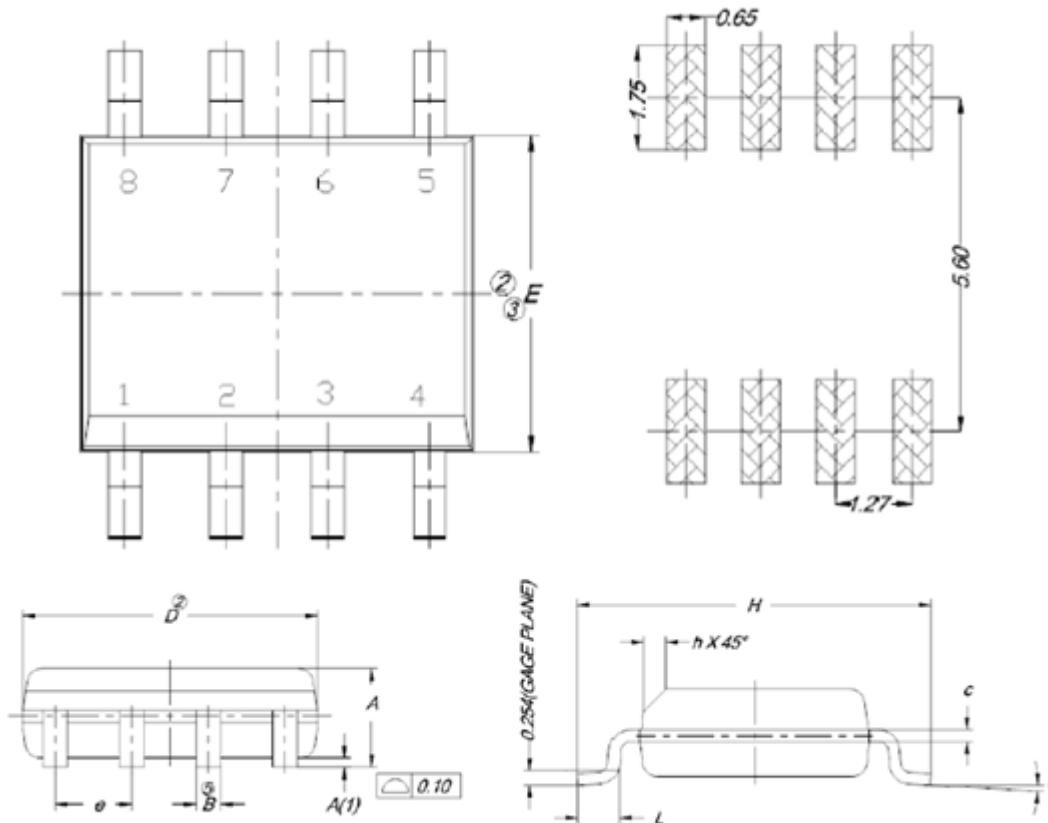
Normalized Maximum Transient Thermal Impedance



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Packing Information

SOP-8



DIM	MILLMETERS		
	MIN	NOM	MAX
A	1.35	1.55	1.75
A(1)	0.10	0.18	0.25
B	0.38	0.45	0.51
C	0.19	0.22	0.25
D	4.80	4.90	5.00
E	3.80	3.90	4.00
e	1.27 BSC		
H	5.8	6.00	6.20
L	0.50	0.72	0.93
a	0°	4°	8°
h	0.25	0.38	0.50

Unit: mm



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Notes

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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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