5 é / Descriptions

PDFN5 ˜6A .> / / x E N ?ú 3 « | • ’ož
DualN-CHANNEL MOSFET in a PDFN56A Pack c

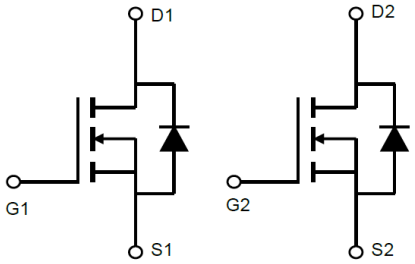
¤ª / Features

V_{DS} (V) =100V I_D =30A (V_{GS} = ±20V)
$R_{DS(ON)}$@10V ”25mΩ(Typ:20mΩ)
$R_{DS(ON)}$@4.5V ”35mΩ(Typ:25mΩ)
… ` AEC-Q101 ö Õ ä U ´ Å } L z —)í D }ož
Qualified AEC-Q101 Standard rHg Reliably HF Pd c

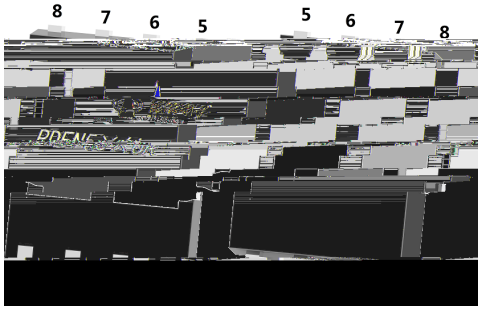
Ð ÷ / Applications

DC/DC ô E ˜ k 9 ä È • ¼ y c 5 … v k á V ñ • } Ložž
DC/DC Cp Id f g n c ab Me
g ab c

Ã W] Ô · / Equivalent Circuit



• Û - æ / Pinning



, M V / Marking

• - ~ ª ¢ož
Se Mak

Ã a ? d / Absolute Maximum Ratings(Ta=25 ;)

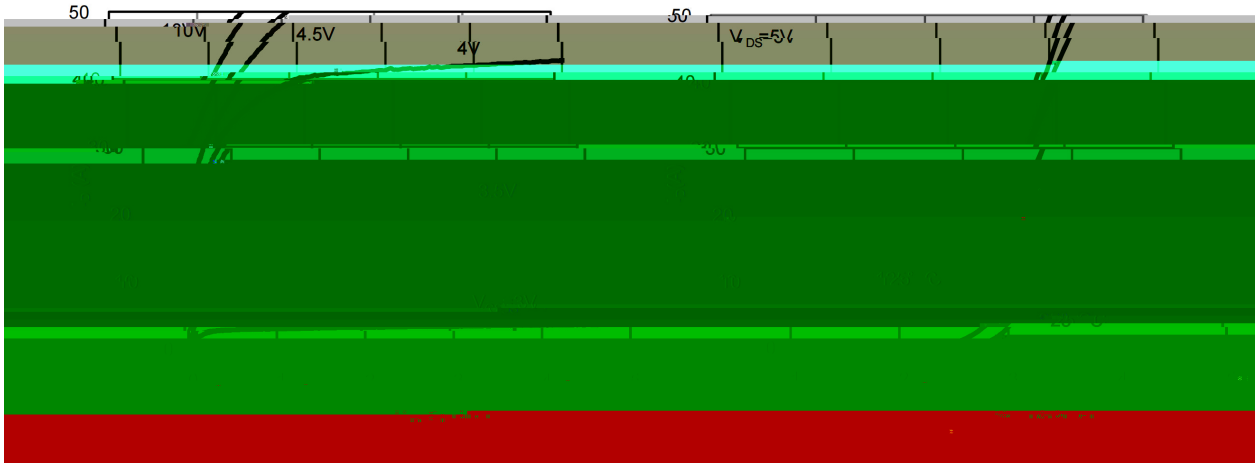
@ f Paaeter	… Z Sybo	f › Rag	% y Uh
Dai-Sou	DSS	100	V
DaiCre	I_D(T)	30	A
DaiCre Pse I	DM	113	A
GaeSou	GS	20	V
Aaan	AS	7	A
Sg Pe Aaan	AS c	24.5	J
Pe Dipa	P_D(T)	45	W
Sag Tape Rag	Tg	-55 150	
Tal Ran toAbe	t 0 10s	R ©JA c 40	/W
	Sady Sae	63	
Tal Ran toCase	Sady Sae	R ©JC c 2.78	

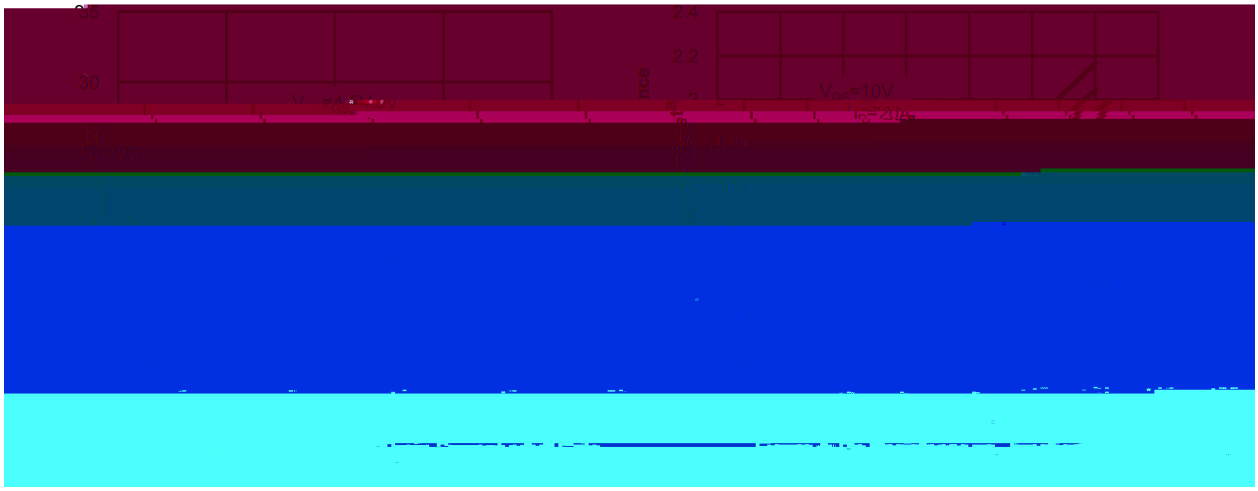
@ f Paaeter	… Z Sybo	y ¡ Ú ^ Tes Cdi	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Uh
Dai-Sou	BV_{DSS}	V_{GS}=0V I_D=250 A	100	109		V
Ze GaeVag DaiCre I	DSS	V_{DS}=100V V_{GS}=0V			1	A
GaeBy Leage Fad	I_{GSS}	V_{GS}=20V V_{DS}=0V			0.1	A
GaeTh Vag V	GS(h)	V_{DS}=V_{GS} I_D=250 A	1.0	1.6	2.5	V
Sa Or-Ra	$R_{DS(o)}$	V_{GS}=10V c I_D=20A		20	25	m
		V_{GS}=4.5V I_D=10A		25	35	m
Dai-Sou Vag	V_{SD}	V_{GS}=0V c I_S=1A			1.2	V
Ip Cap	s	V_{DS}=25V V_{GS}=0V f=1.0MHz c		820		pF
Op Cap	s			475		
Re Tafe Cap	s			35		
Gaean	g	V_{GS}=0V V_{DS}=0V f=1MHz c		1.9		
Tal GaeCha Q	(10V)	V_{GS}=10V V_{DS}=50V I_D=9A c		17		nC
Tal GaeCha Q	(4.5V)			9		
GaeSou	gs			3		
GaeDaiCha Q	gd			3.5		

Ô4ì × ? d / Electrical Characteristics(Ta=25

@ƒ Parameter	… Z Symbol	y ¡ Ú ^ Test Cond	Â 4 › Min	Á º › Typ	Â Ý › Max	% y Unit
Turn-On Delay Time	$t_{d(on)}$	V_{GS}=10V V_{DS}=50V R_L=5.5 R_{GEN}=3.0		5		ns
Turn-On Rise Time	t_r			3.2		
Turn-Off Delay Time	$t_{d(off)}$			21		
Turn-Off Fall Time	t_f			3		

Ô ? d • Ž ¢ / Electrical Characteristic Curve





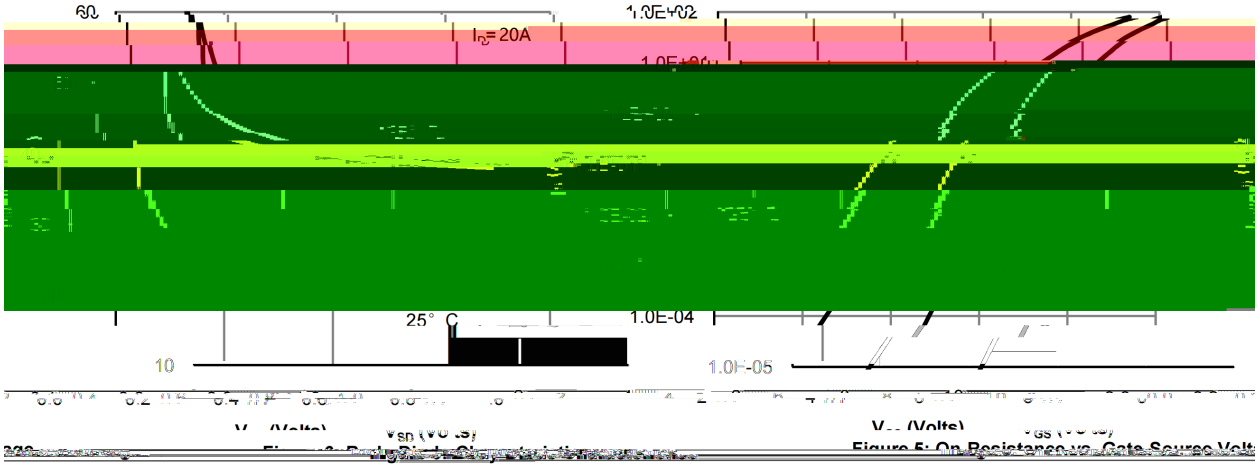
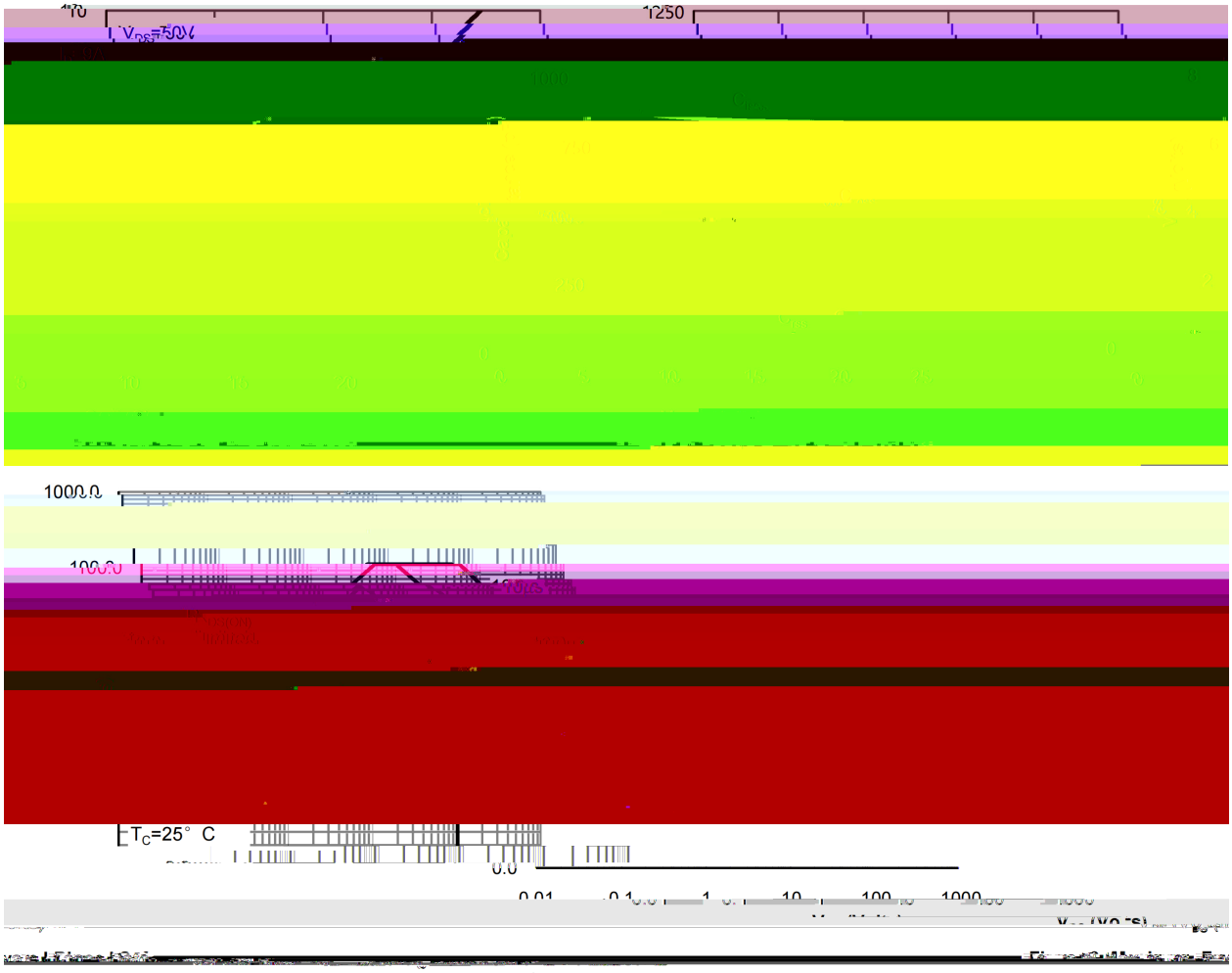


Figure 5: On-Resistance vs. Gate-Source Volt

Ô ? d • Ž ¢ / Electrical Characteristic Curve



Operating Area

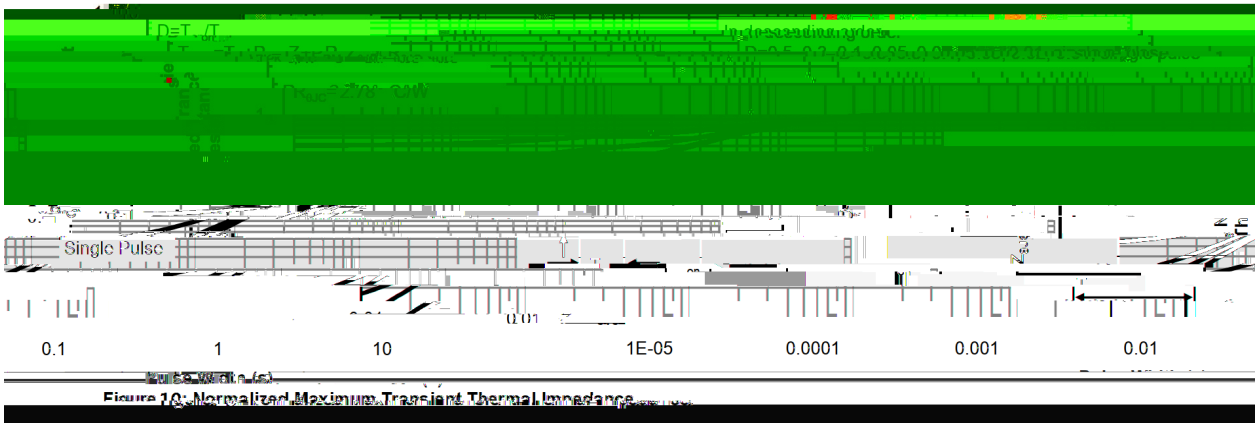


Figure 10: Normalized Maximum Transient Thermal Impedance

, M y ƒ / Marking Instructions

ª ¢ y
(8 y ¸ [W A
7 y V ñ —)í D } ö œ
250N10S y

š WD t … • Ž ¢ (x /) / : K S V K X G Z [X K 6 X U L O R K L U X / 8 8 K L R U] 9 U R J K X O T M 6

ª ¢ y		N e		
1o • Ä ½ “ †	150 ½200 - k ž •	60 ½120 s	- , T e	60±120s c
2o • Q › “ †	255 r5 - k ž • 4 Ò	5 r0.5s	r5 - , D a t	5 r0.5s c
3o • D N ò i Ò 0 , †	2 ½10 - / s	C h S p	2±10	- / s c

Â D /Cã p ¯ »] / Resistance to Soldering Heat Test Conditions

“ † y 260 r5 -	ž • y 10 r1 s	T e	10± s c

G P á / Packaging SPEC.

2 & x / REEL 4 0 . y T " f a 1 ‰ ' 0 0 4 D ‡ f Á • 0 5 7) Ð ý (€ . / ö) 5 % ˆ (h P X a C Q • } u f ™ @ Q D A ÿ z 0 ~ G Q