!

Features

‡ New technology for high voltage device.

‡Low on-resistance and low conduction losses

‡ 8OWUD /RZ *DWH &KDUJH FDXVH ORZHU GULYLQJ UHTXLUHPHQWV

‡100% Avalanche Tested

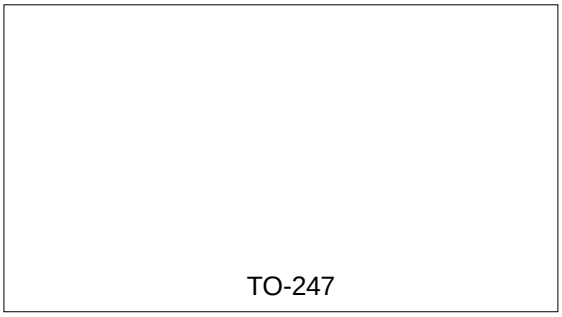
BVDSS	650	V
ID	78	A
RDSON@VGS=10V	33	m

Applications

‡ Power factor correctionÄPFC Å

‡Switched mode power supplies(SMPS)

‡ Uninterruptible Power SupplyÄUPS Å



TO-247

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F 78!2E	%+<EC	F 78!2E	=2

$+# -)). # /01 2

)	3)+	:	4
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1 +# 6	61#	=2	6
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/ 2	B $ &	<=E	*
' - - " $ >&< 8	"	822	
" (	B	C:	*
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1 + "	N			= 2		
) #						
+ " -	$ &	VDS = 300 V, ID = 30 A, VGS = 10 V, RGEN = 25 Ω		64		#
+ ! -				69		#
+ % " -	$ &			307		#
+ % (-				56		#
& # #						
(% 6	6#"	< 8 A #" BE 2 *1# 6> 26			<	6
! ! -		VR=400V IF = 20 A, dI/dT = 100 A/µS		165		#
! ! / 52	N			1.35		
/ ! !	B-			15		*

! ! O - 5 - - -

< 6"" > 826 61#> 26 !1 > <8 ;

= ≤ =22 ≤ <3

!

Typical Characteristics

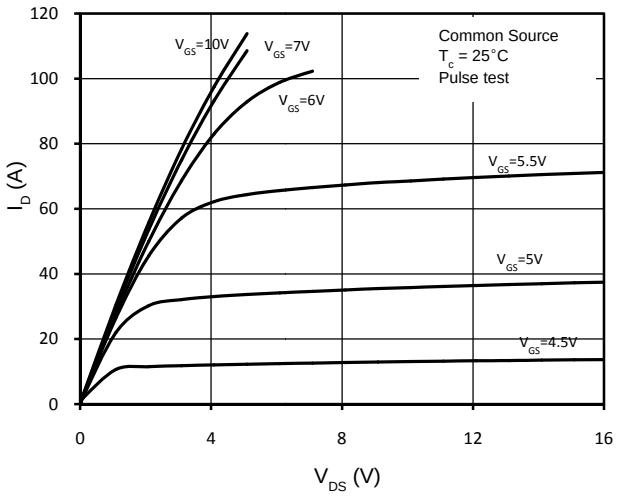

Figure 1.On-Region Characteristics

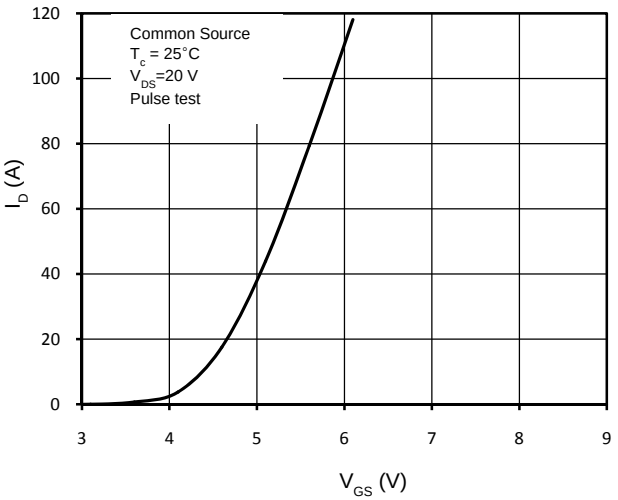

Figure 2. Transfer Characteristics

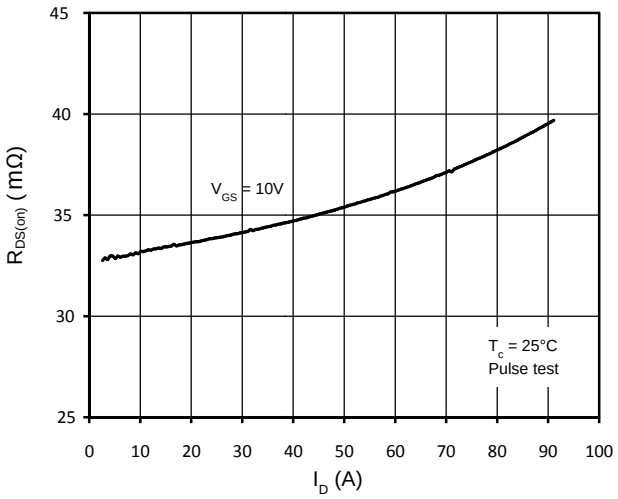

Figure 3. Static Drain-Source On Resistance

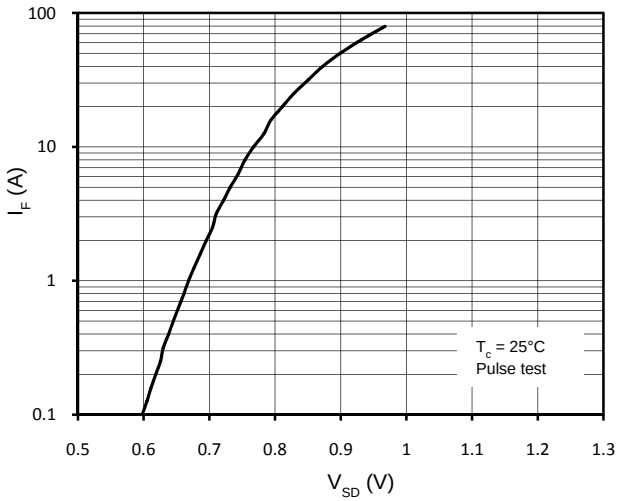

Figure 4. Body- Diode Forward Characteristics

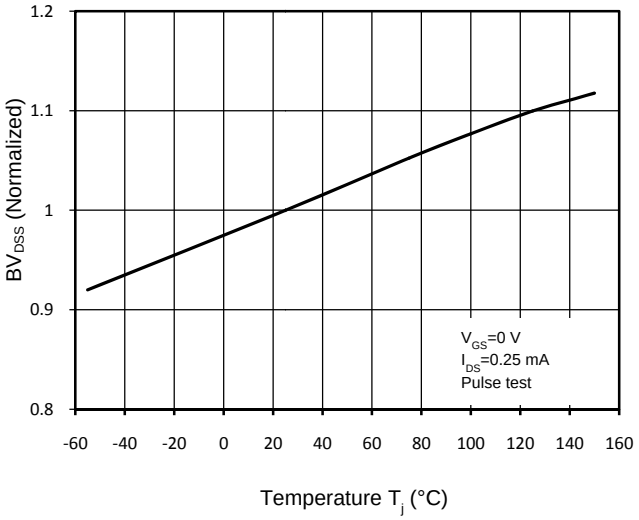

Figure 5. Normalized BV_{DSS} vs. Temperature

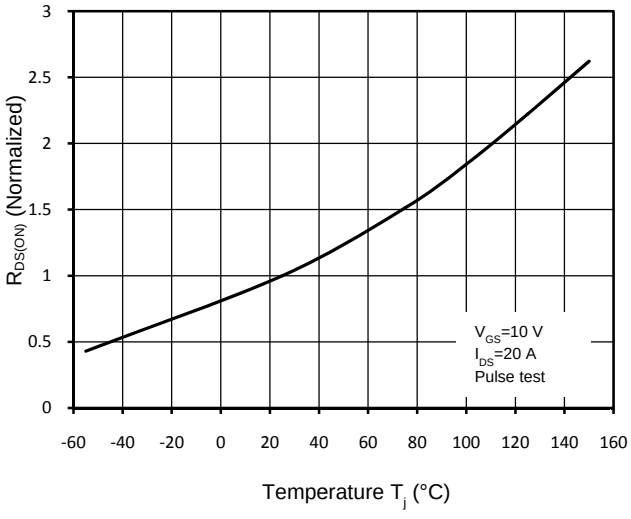

Figure 6. Normalized $R_{DS(on)}$ vs. Temperature

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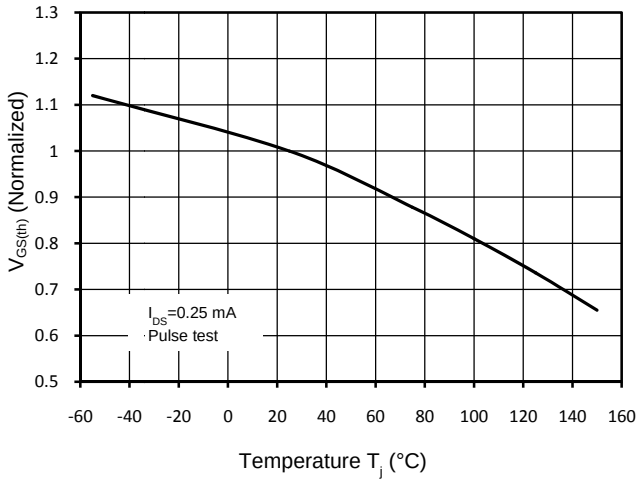

Figure 7. Threshold Voltage vs. Temperature

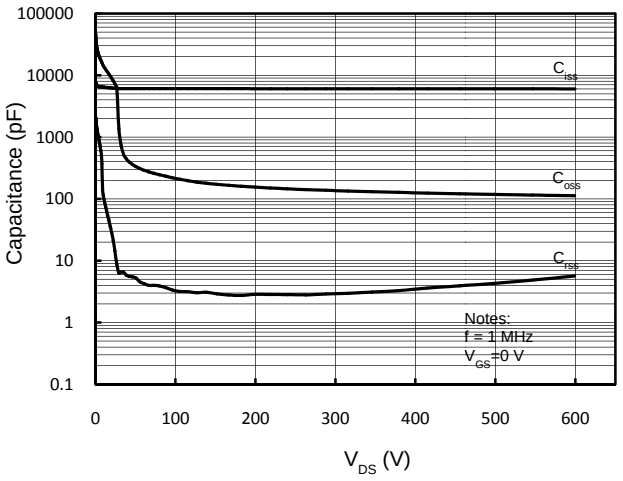

Figure 8. Capacitance Characteristics

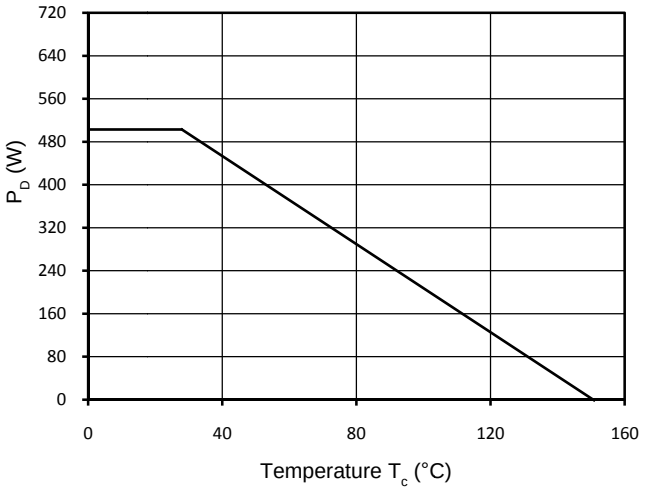

Figure 9. Power Dissipation

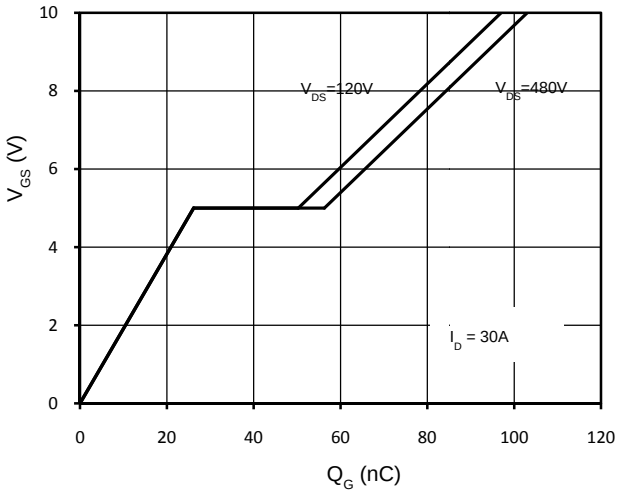

Figure 10. Gate Charge Characteristics

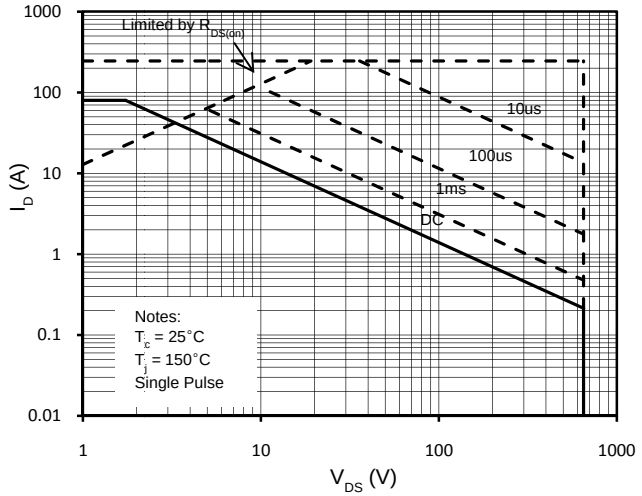

Figure 11. Maximum Safe Operating Area

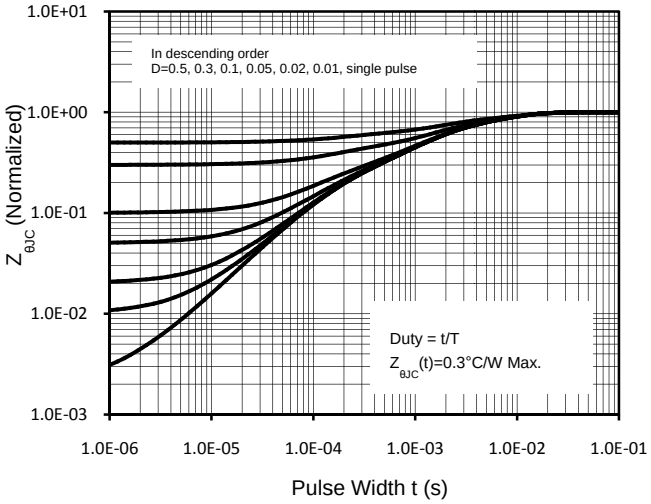

Figure 12. Transient Thermal Response Curve

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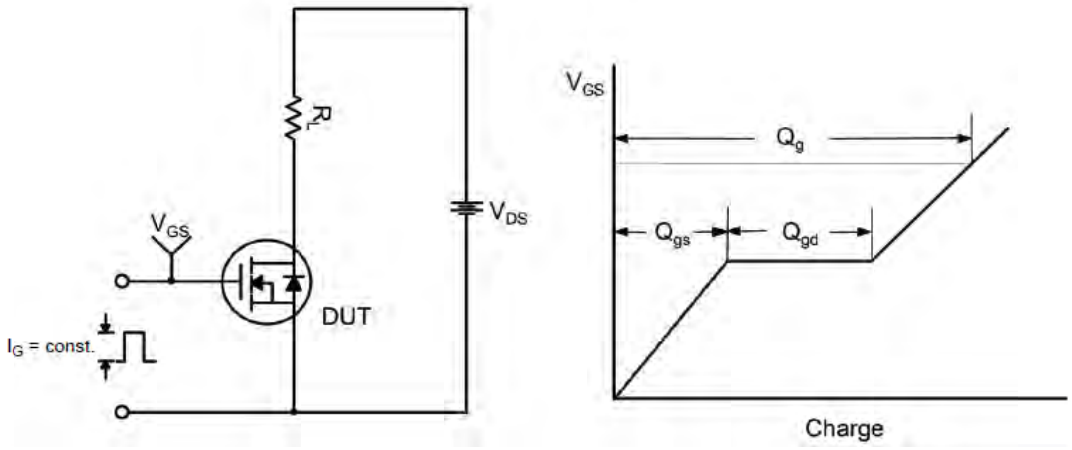
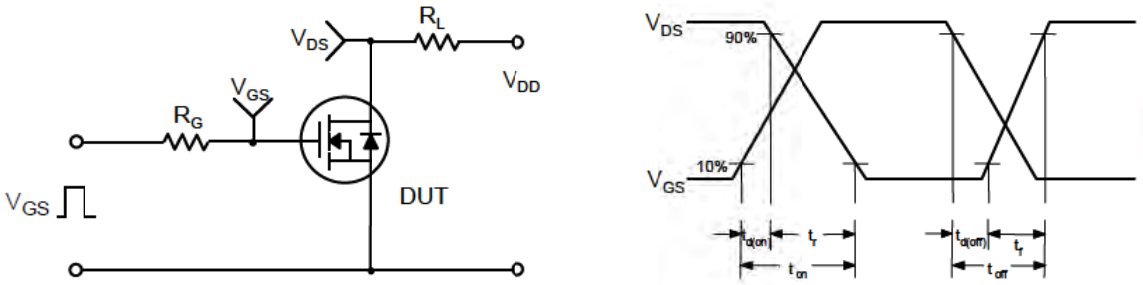
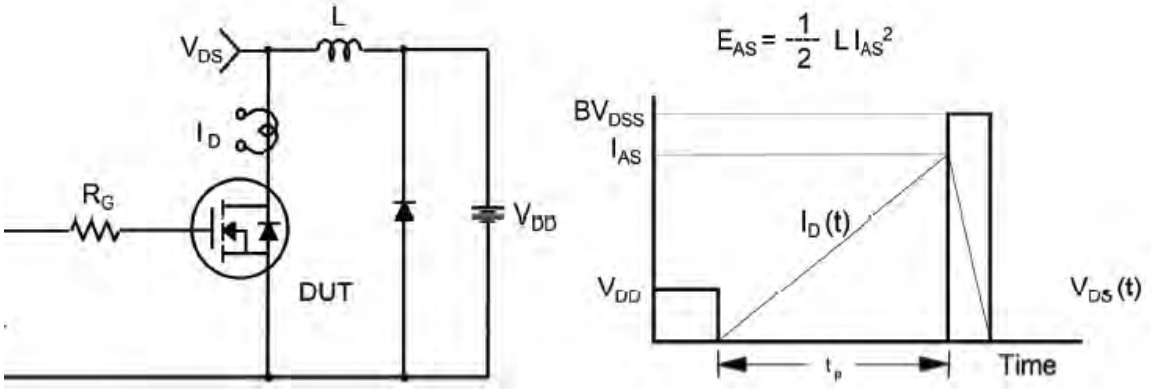
Gate Charge Test Circuit & Waveform



Switching Test Circuit & Waveforms



Unclamped Inductive Switching Test Circuit & Waveforms



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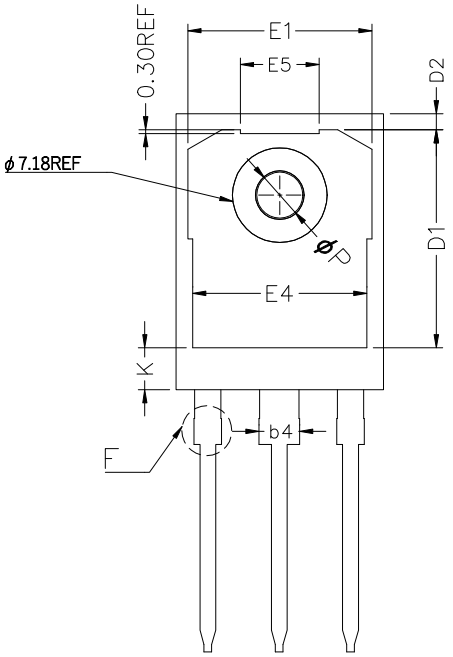
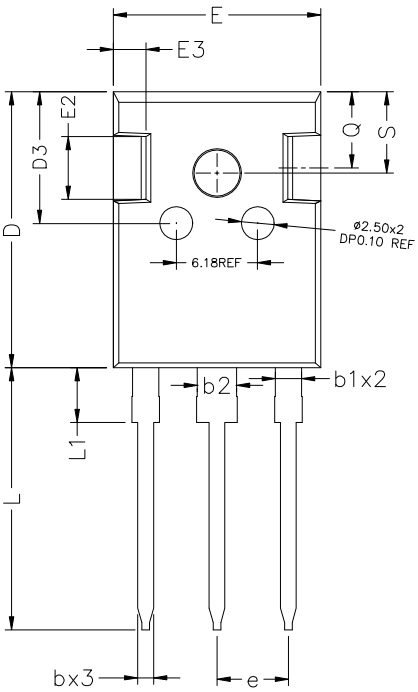
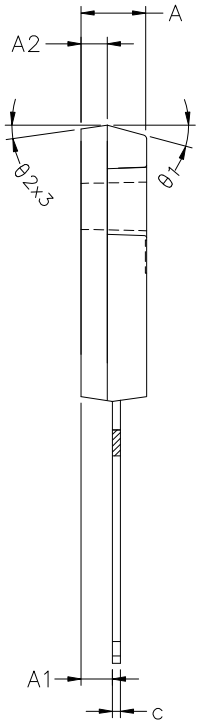
TO-247 Package Outline Dimensions (Units: mm)



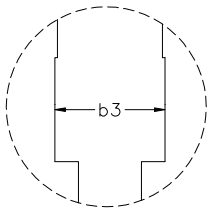
BOTTOM VIEW



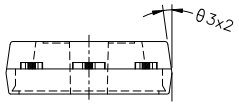
TOP VIEW



SIDE VIEW



DETAIL F



SIDE VIEW

COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	4.900	5.000	5.100
A1	2.300	2.400	2.500
A2	1.900	2.000	2.100
b	1.070	1.200	1.330
b1	1.910	2.000	2.160
b2	2.870	3.000	3.160
b3	1.910	2.100	2.410
b4	2.870	3.000	3.380
c	0.550	0.600	0.680
D	20.000	21.000	21.100
D1	16.250	16.950	17.650
D2		1.200REF	
D3		10.000REF	
E	15.700	15.800	15.900
E1	13.100	14.020	14.150
E2	3.680	–	5.100
E3	1.000	–	1.900
E4	12.380	13.260	13.430
E5		5.990REF	
e		5.440BSC	
L	19.810	19.950	20.320
L1	4.100	–	4.400
ϕP	3.500	–	3.650
Q	5.490	–	6.000
S	6.040	–	6.300
θ1		15.0°REF	
θ2		8.0°REF	
θ3		8.0°REF	
K		3.190REF	