

Product Summary

It combines advanced trench MOSFET technology with a low resistance package to provide extremely low $R_{DS(ON)}$.

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Trench technology
 $R_{DS(ON)}$ to minimize conductive loss

nd Synchronous Rectifier

$T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_D @ T_C = 25$	7.5	A
	$I_D @ T_C = 75$	5.7	A
	$I_D @ T_C = 100$	4.7	A
Pulsed Drain Current	I_{DM}	30	A
Total Power Dissipation	$P_D @ T_C = 25$	8	W
Total Power Dissipation	$P_D @ T_A = 25$	1	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy @ $L = 0.1mH$	E_{AS}	10	mJ
ESD Level (HBM)		1A	



Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	15	° C/W
Thermal resistance, junction - ambient	R_{thJA}	-	-	120	° C/W
Soldering temperature, wavesoldering for 10s	T_{sold}	-	-	260	° C

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	100			V
Gate Threshold Voltage	$V_{GS(TH)}$	$V_{GS} = V_{DS}, I_D = 250\mu A$	1.3		2.5	V
Drain-Source Leakage Current	I_{DSS}	$V_{DS} = 100V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			100	nA
Static Drain-source On Resistance	1 2 . -	$V_{GS} = 10V, I_D = 10A$				
	1 2 . -	$V_{GS} = 4.5V, I_D = 6A$				
Forward Transconductance	g_{FS}	$V_{DS} = 10V, I_D = 4A$				

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
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Fig.1 Gate-Charge Characteristics

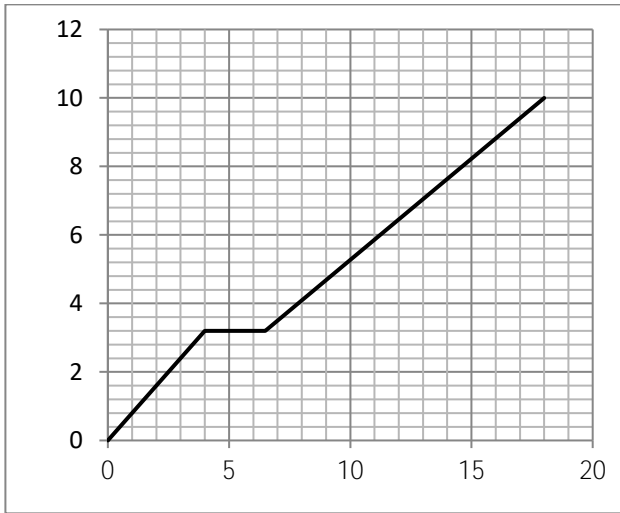


Fig.2 Capacitance Characteristics

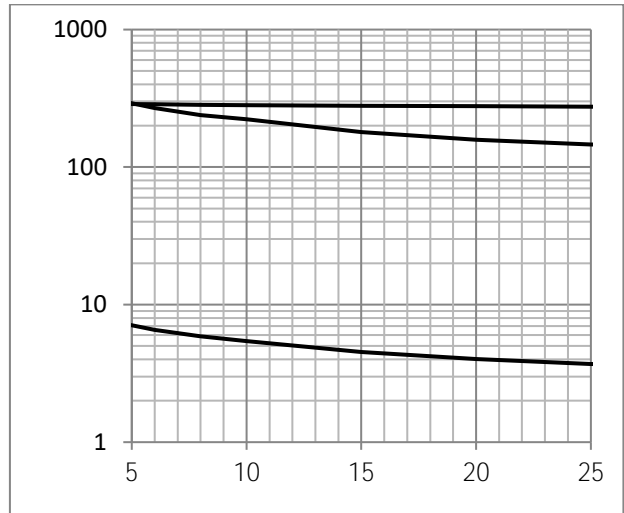


Fig.3 Power Dissipation

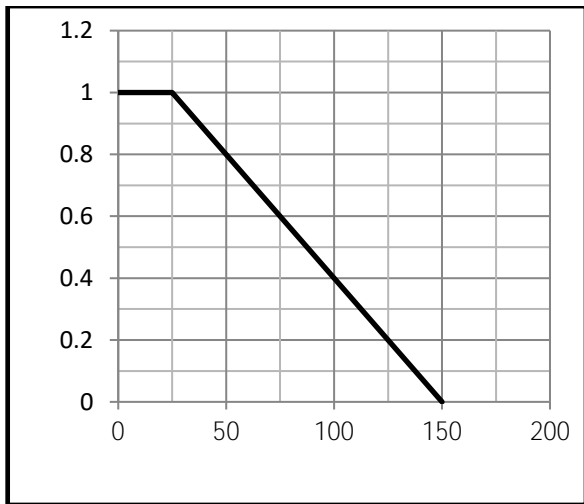


Fig.4 Typical output Characteristics

5 2 5 5 5 5 5

Fig.5 Threshold Voltage V.S Junction Temperature

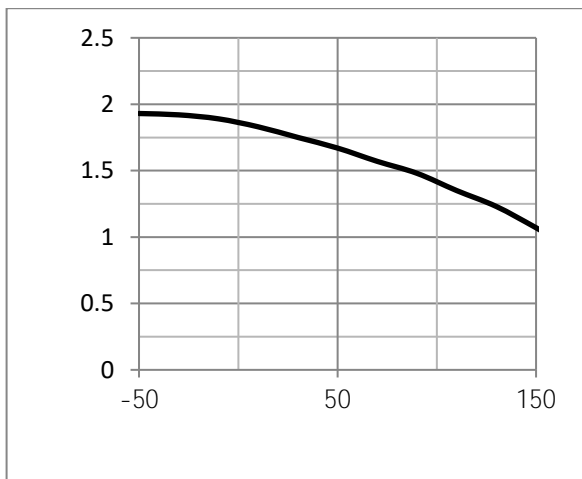


Fig.6 Resistance V.S Drain Current

F . 1D D52 D2 D5 FD

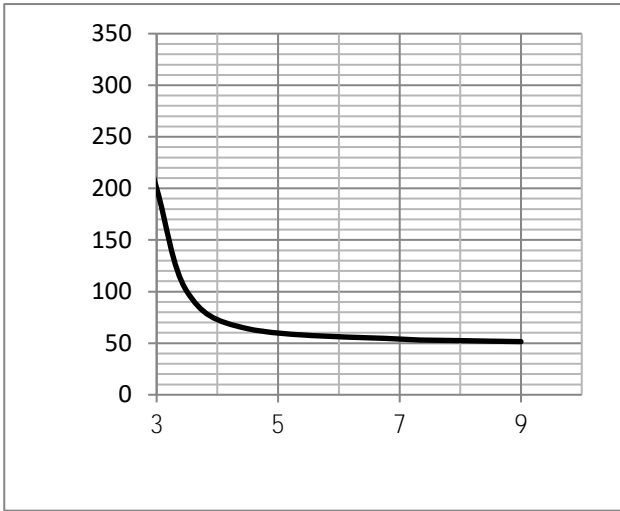


Fig.9 SOA Maximum Safe Operating Area

F . 1D D5 2) 3D D D

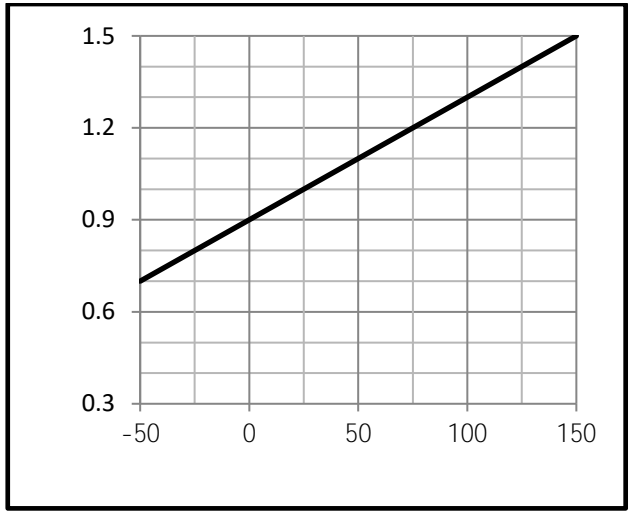
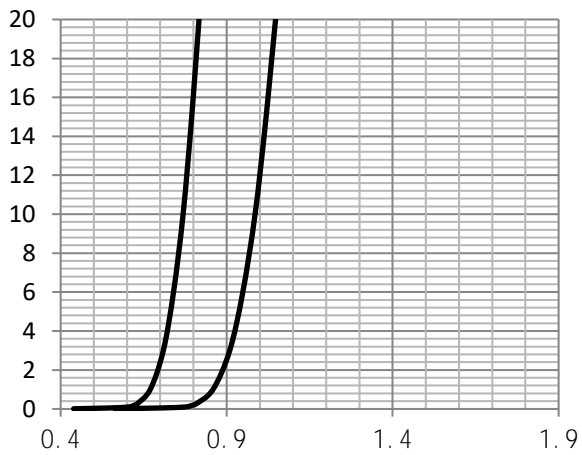


Fig.10 ID-Junction Temperature

F D CD C5 FD D



F D 3 ED G D

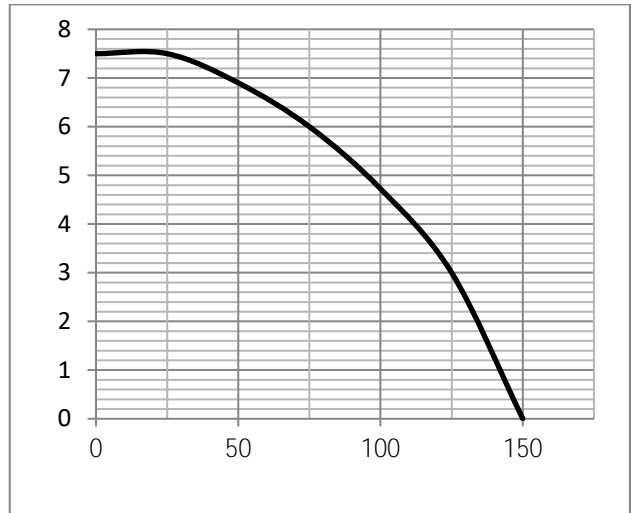


Fig.13 Switching Time Measurement Circuit

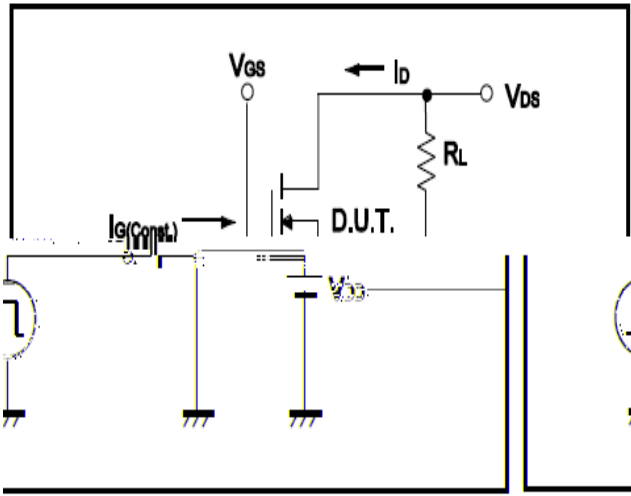


Fig.14 Gate Charge Waveform

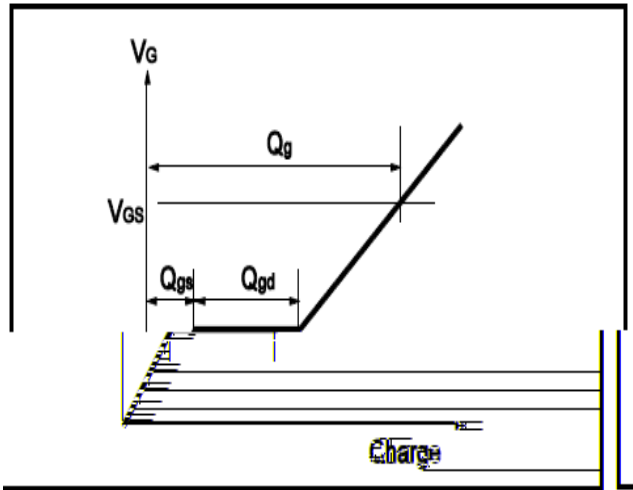


Fig.15 Switching Time Measurement Circuit

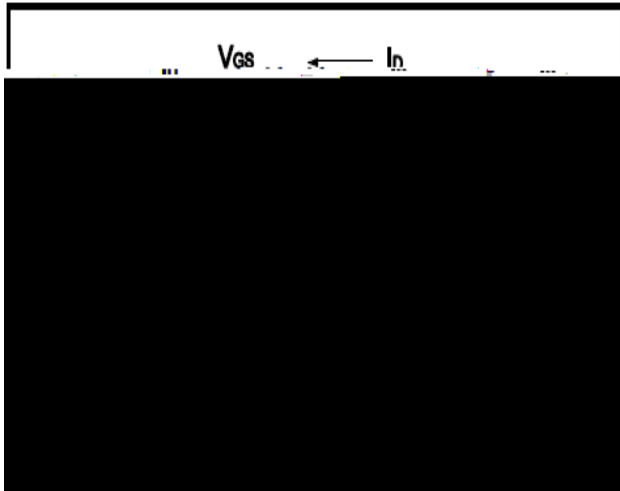
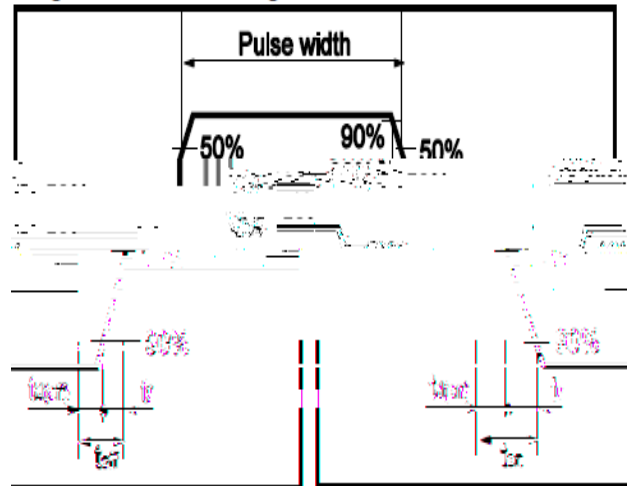
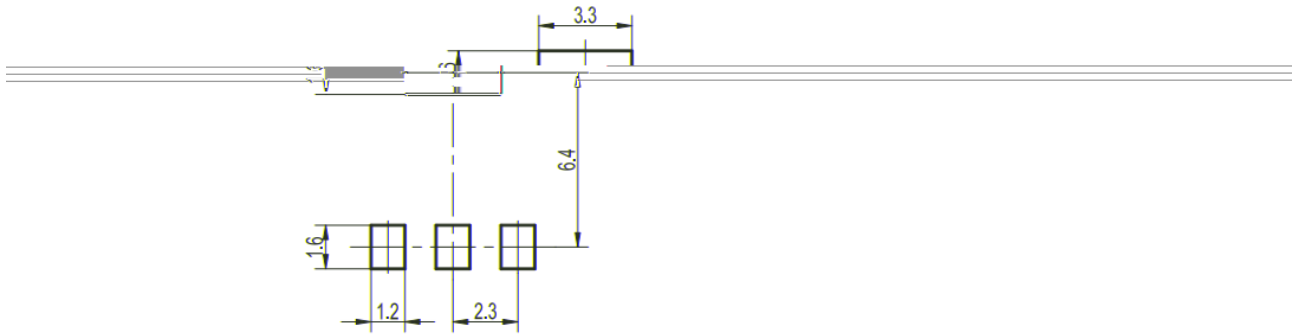


Fig.16 Gate Charge Waveform





Recommended Soldering Footprint



Shipping information

Length (in)	Length (mm)	Width (in)	Width (mm)	Height (in)	Height (mm)	Weight (g)	Volume (cm ³)
315 ± 0.004	330	13					

Package	Lead Spacing (mm)	Lead Width (mm)	Lead Length (mm)	Lead Thickness (mm)
SOT-223	12	8 ± 0.1		0.1