Product Summary

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

Trench technology

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 =250uA	100			V
Gate Threshold Voltage	$V_{GS(TH)}$	V_{GS} =V_{DS}, I_D =250uA	1.3		2.5	V
Drain-Source Leakage Current	I_{DSS}	V_{DS}=100V, V_{GS} =0V			1.0	uA
Gate- Source Leakage Current	I_{GSS}	V_{GS}=±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

Fig.1 Gate-Charge Characteristics

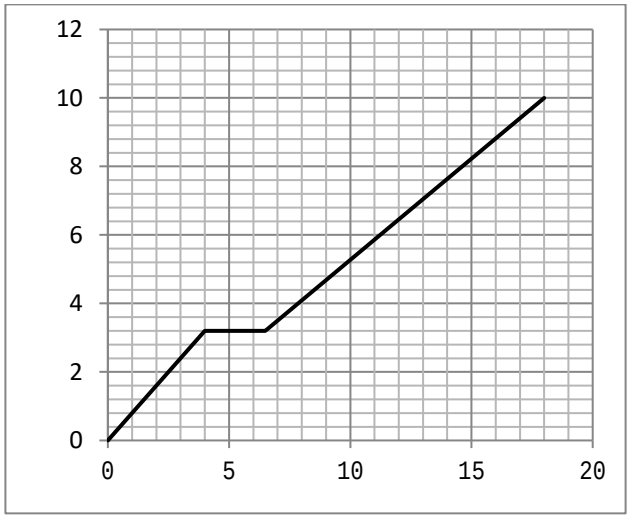


Fig.2 Capacitance Characteristics

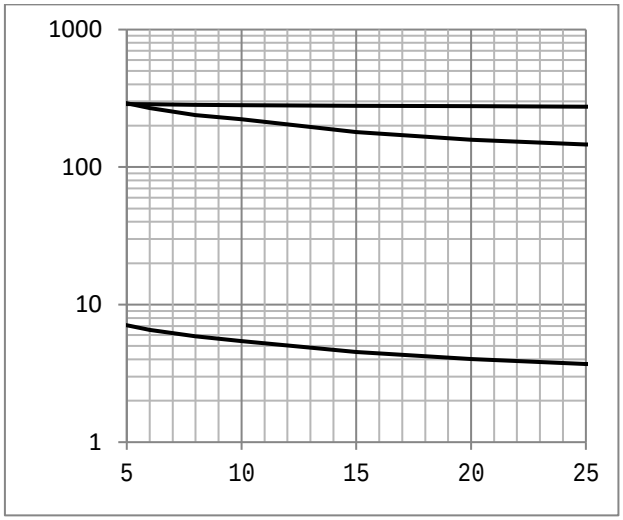


Fig.3 Power Dissipation

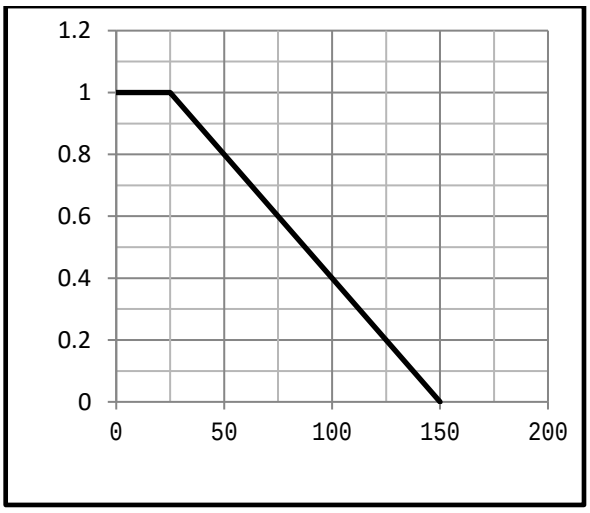


Fig.4 Typical output Characteristics

5 2 5 5 5 5 5

Fig.5 Threshold Voltage V.S Junction Temperature

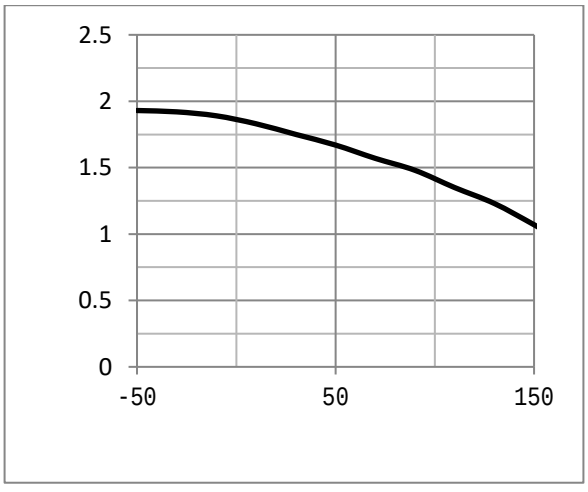


Fig.6 Resistance V.S Drain Current

F . 1D D52 D2 D5 FD

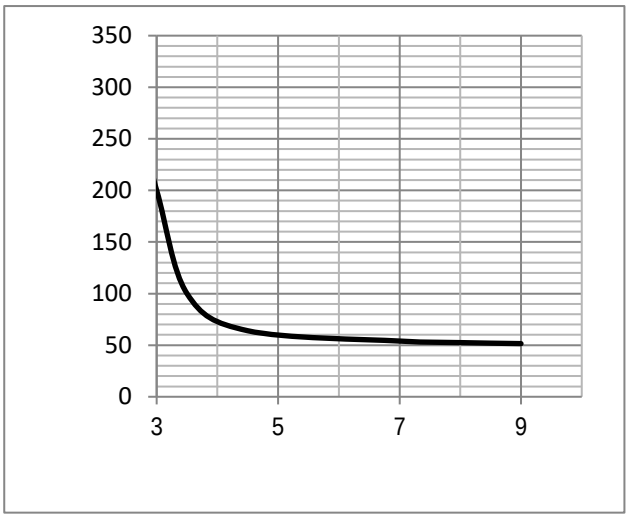


Fig.9 SOA Maximum Safe Operating Area

F . 1D D5 2) 3D D D

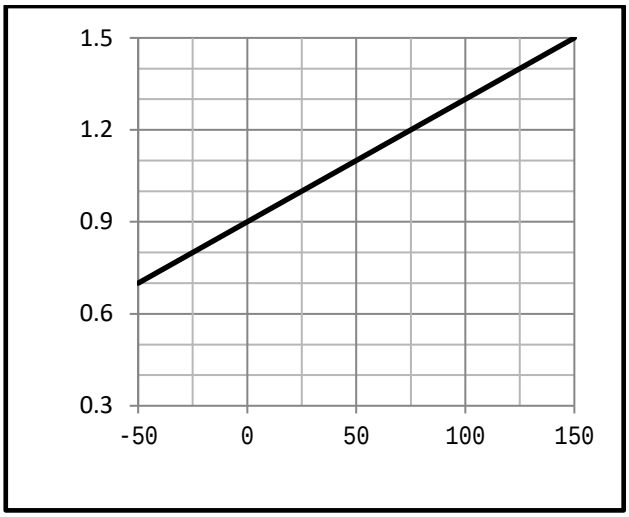
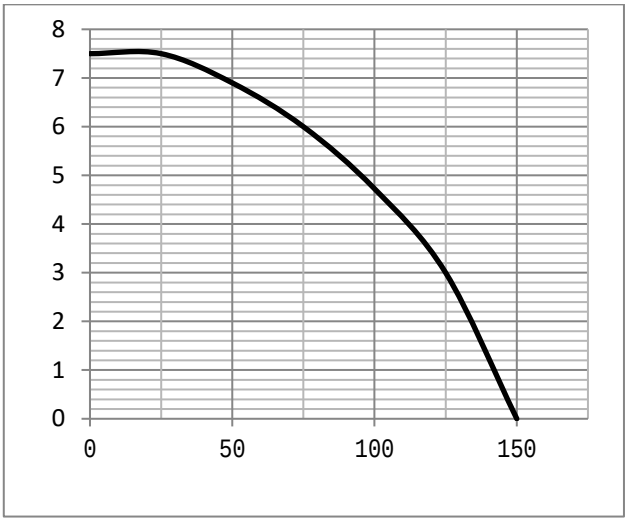


Fig.10 ID-Junction Temperature



F D CD C5 FD D F D 3 ED G D

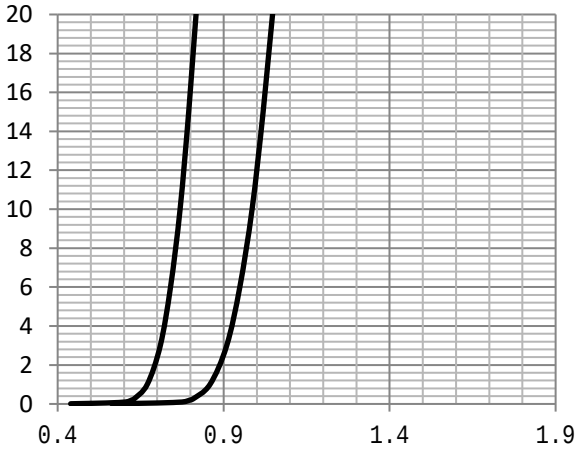


Fig.13 Switching Time Measurement Circuit

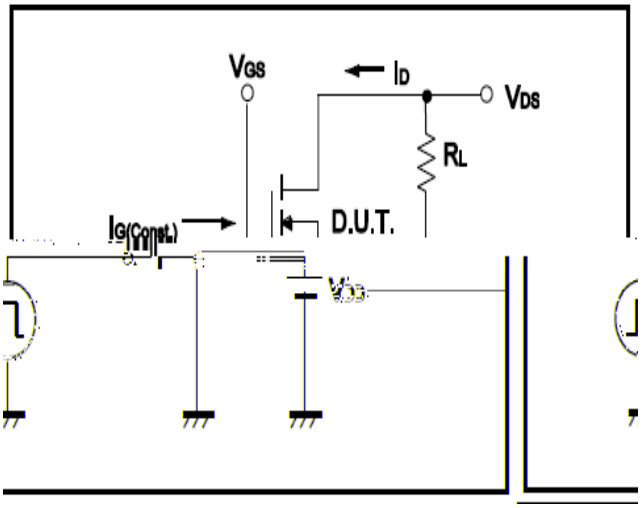


Fig.14 Gate Charge Waveform

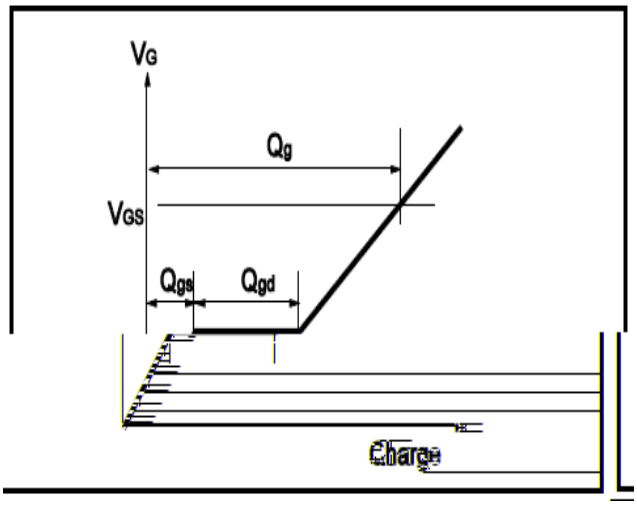


Fig.15 Switching Time Measurement Circuit

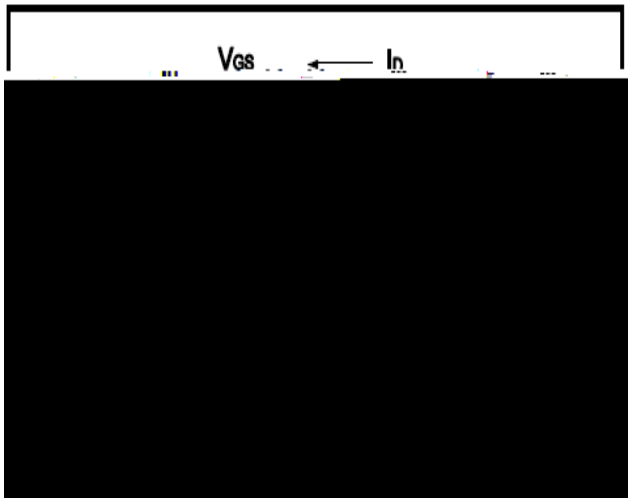
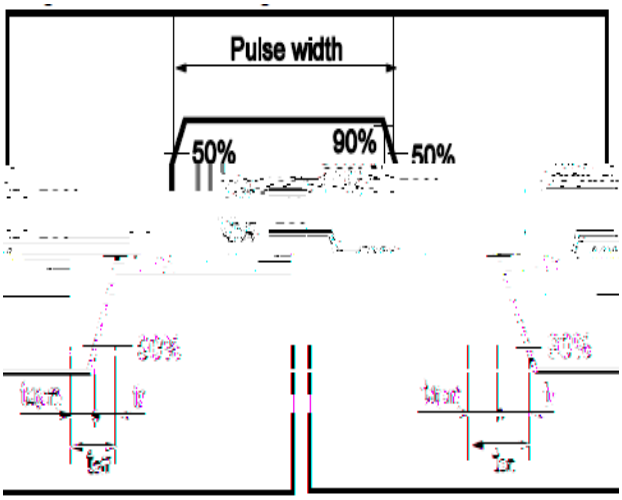
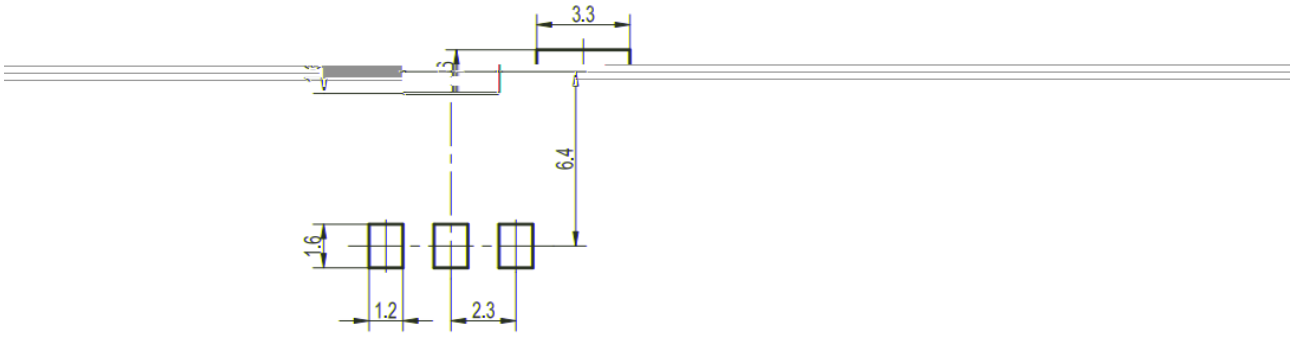


Fig.16 Gate Charge Waveform



Recommended Soldering Footprint



cking information

			Per Reel Packing Quantity		Package		
	mm	inch				(mm)	mm
315 ± 0.004	330	13	3,000		SOT-223	12	8 ± 0.1