

**General Description**

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

Features

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

Product Summary**Application**

Synchronous Rectification for AC-DC/DC-DC converter
 Oring switches
 Power Tools

Ordering Information:**Absolute Maximum Ratings** $T_C = 25$

Parameter	Symbol	Rating	Unit
Drain-Source Voltage	V_{DS}	120	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current	$I_{D@TC=25}$	120	A
	$I_{D@TC=75}$	91	A
	$I_{D@TC=100}$	75	A
Pulsed Drain Current	I_{DM}	360	A
Total Power Dissipation	$P_D@TC=25$	75	W
Total Power Dissipation	$P_D@TA=25$	2	W
Operating Junction Temperature	T_J	-55 to 150	
Storage Temperature	T_{STG}	-55 to 150	
Single Pulse Avalanche Energy	E_{AS}	320	mJ

**Thermal resistance**

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal resistance, junction - case	R_{thJC}	-	-	2.8	$^{\circ}C/W$
Thermal resistance, junction - ambient	R_{thJA}	-	-	62	$^{\circ}C/W$
Soldering temperature, wave soldering for 10s	T_{sold}	-	-	265	$^{\circ}C$

Electronic Characteristics

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Drain-Source Breakdown Voltage	BV_{DSS}	$V_{GS} = 0V, I_D = 250\mu A$	120			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}	$V_{DS} = 120V, V_{GS} = 0V$			1.0	μA
Gate- Source Leakage Current	I_{GSS}	$V_{GS} = \pm 20V, V_{DS} = 0V$			100	nA
Static Drain-source On Resistance		$V_{GS} = 10V, I_D = 25A$				
		$V_{GS} = 4.5V, I_D = 20A$				

Forward Transconductance g_{FS} $V_{DS} = 25V, I_D = 10A$



Note:

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Fig.1 Gate-Charge Characteristics

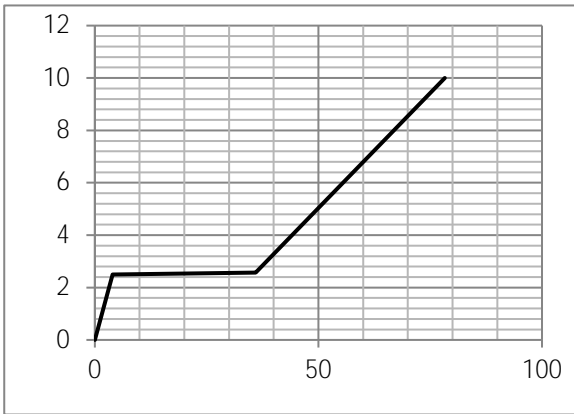


Fig.2 Capacitance Characteristics

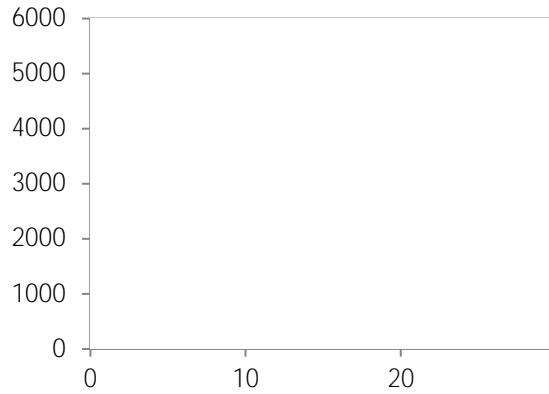


Fig.3 Power Dissipation

Fig.4 Typical output Characteristics

Fig.5 Threshold Voltage V.S Junction Temperature Fig.6 Resistance V.S Drain Current

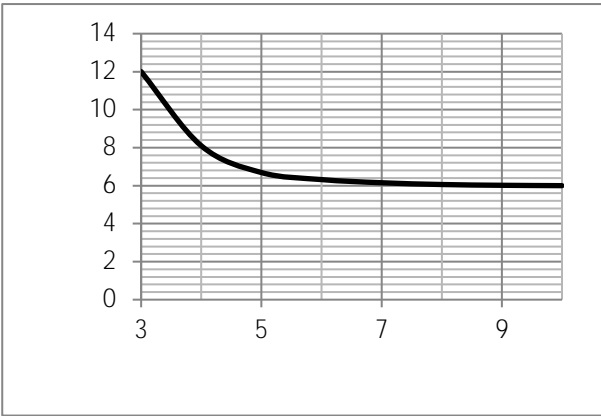


Fig.9 SOA Maximum Safe Operating Area

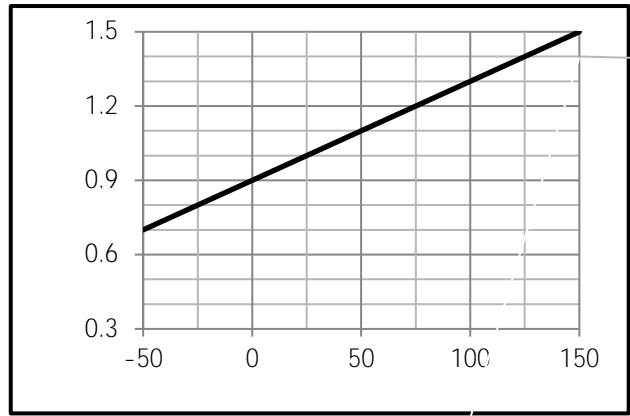


Fig.10 I_D -Junction Temperature

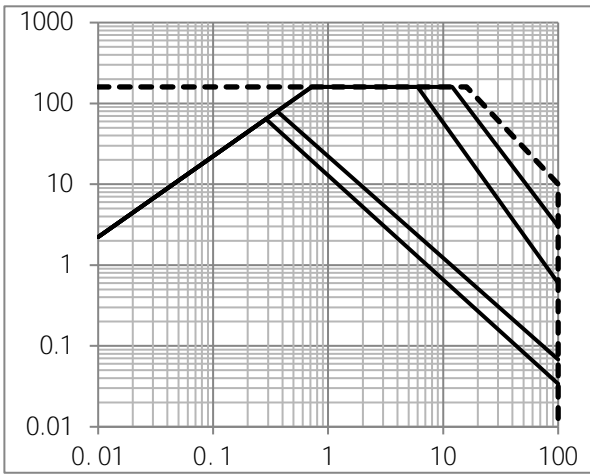


Fig.11 Switching Time Measurement Circuit

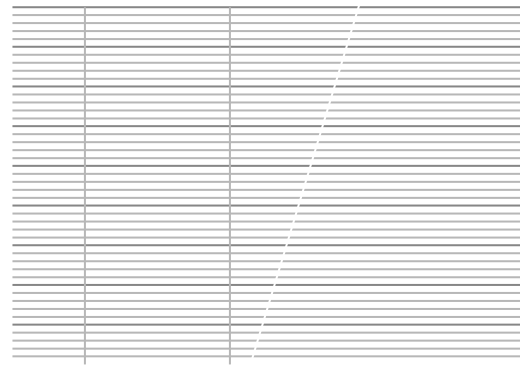


Fig.12 Gate Charge Waveform



Fig.13 Switching Time Measurement Circuit

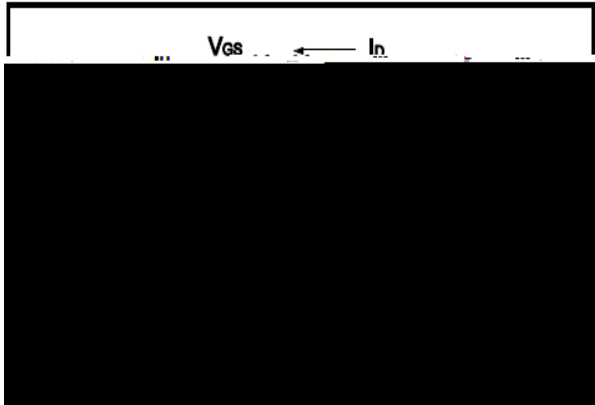


Fig.14 Gate Charge Waveform

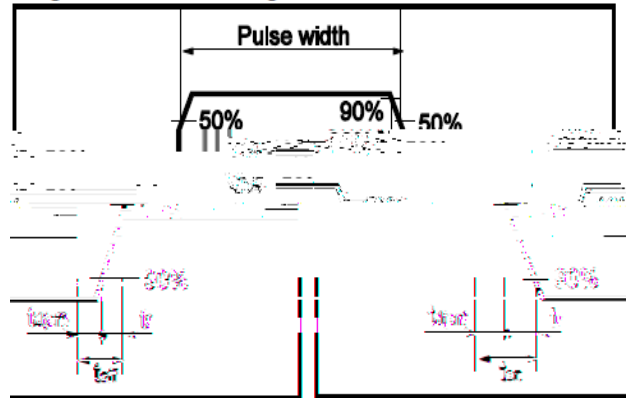


Fig.15 Avalanche Measurement Circuit

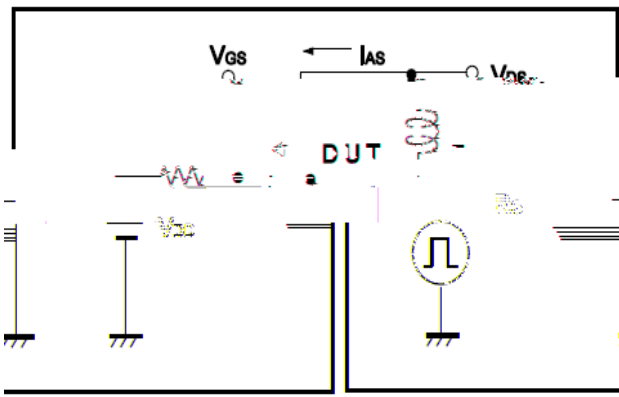


Fig.16 Avalanche Waveform

