# $\frac{\text{N-Channel MOS FET}}{FKP280A}$



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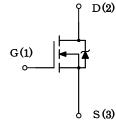
#### **■**Features

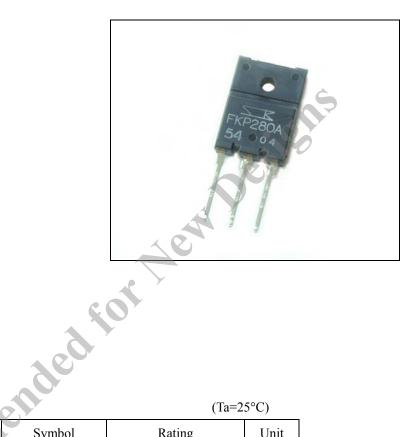
- •Low on-resistance
- •Low input capacitance
- •Avalanche energy capability guaranteed

#### ■Applications

- •PDP driving
- •High speed switching

#### ■Equivalent circuit





■Package---FM100(TO3P Full Mold)

#### ■Absolute maximum ratings

		(Ta=2	5°C)
Parameter	Symbol	Rating	Unit
Drain to Source Voltage	VDSS	280	V
Gate to Source Voltage	VGSS	±30	V
Continuous Drain Current	ID	±40A	А
Pulsed Drain Current	ID(pulse) <sup>*1</sup>	±160A	А
Maximum Power Dissipation	PD	85 (Tc=25°C)	W
Single Pulse Avalanche Energy	EAS *2	400	mJ
Avalanche Current	IAS	40	А
Channel Temperature	Tch	150	°C
Storage Temperature	Tstg	-55 to +150	°C

\*1.  $PW \le 100 \ \mu sec$ , duty cycle  $\le 1\%$ 

\*2. VDD=20V, L=460µH, ILp=40A, unclamped, RG=50Ω, See Fig.1

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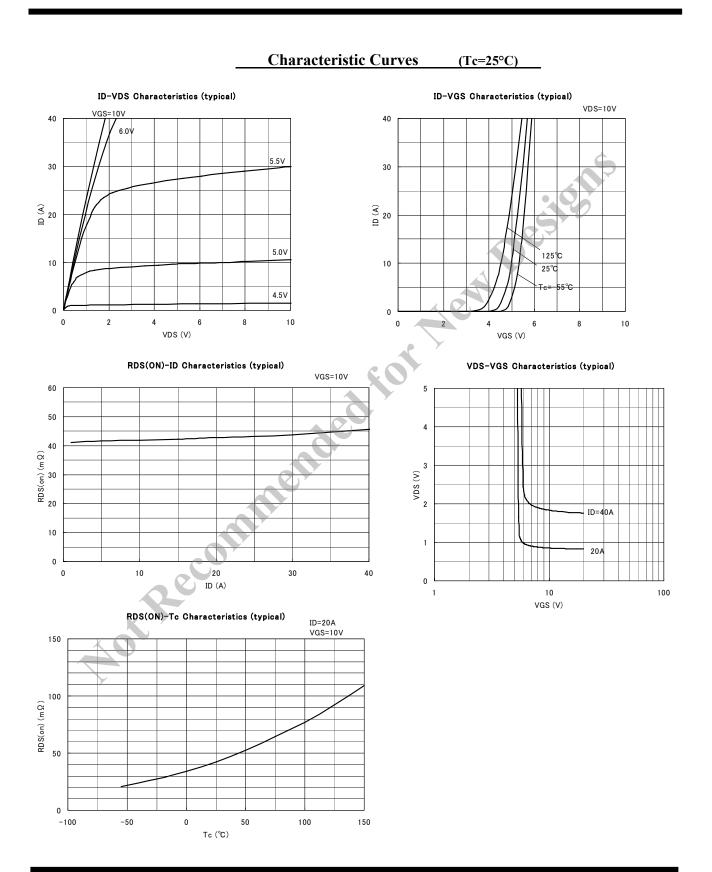


#### Electrical characteristics

			(Ta=25°C)			)
Parameter	Symbol	Test Conditions	Limits			Unit
			MIN.	TYP.	MAX.	Olint
Drain to Source breakdown Voltage	V(BR)DSS	ID=100µA,VGS=0V	280	. (		V
Gate to Source Leakage Current	IGSS	VGS=±30V		5	±100	nA
Drain to Source Leakage Current	IDSS	VDS=280V, VGS=0V			100	μΑ
Gate Threshold Voltage	VTH	VDS=10V, ID=1mA	3.0		4. 5	V
Forward Transconductance	Re(Yfs)	VDS=10V, ID=20A	25	38		S
Static Drain to Source On-Resistance	RDS(ON)	ID=20A, VGS=10V		46	53	mΩ
Input Capacitance	Ciss	VDS=25V		3800		
Output Capacitance	Coss	VGS=0V		580		pF
Reverse Transfer Capacitance	Crss	f=1MHz		190		
Turn-On Delay Time	td(on)	ID=20A, VDD≈140V		40		
Rise Time	tr	RL=7Ω, VGS=10V		90		
Turn-Off Delay Time	td(off)	Rg=5Ω		160		ns
Fall Time	tſ	See Fig.2		70		
Source-Drain Diode Forward Voltage	VSD	ISD=40A,VGS=0V		1.0	1.5	V
Gate Threshold Voltage Temp. Coefficient	ΔVTH/ΔTch	VDS=10V, ID=1mA		-11		mV/°C

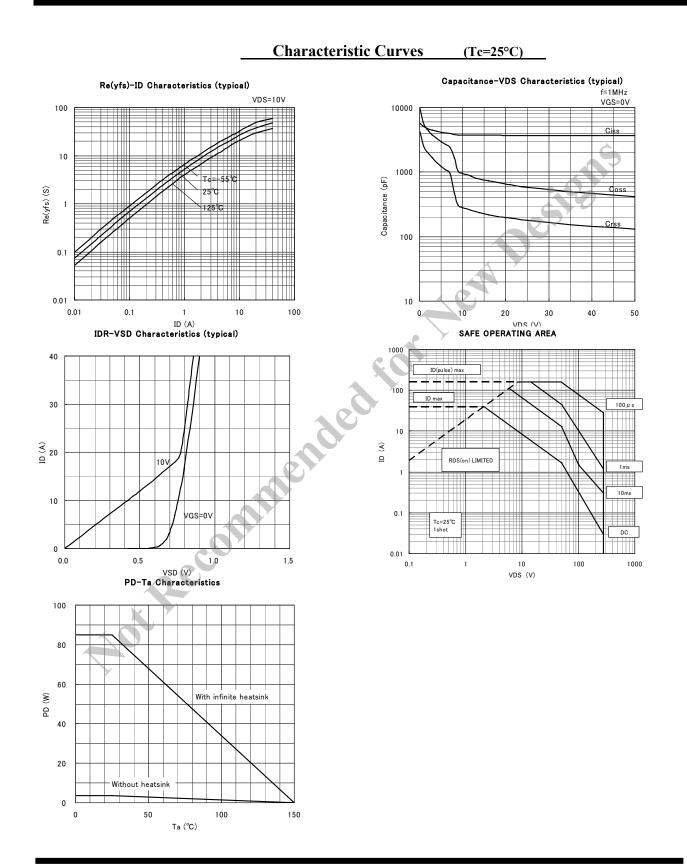


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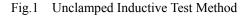


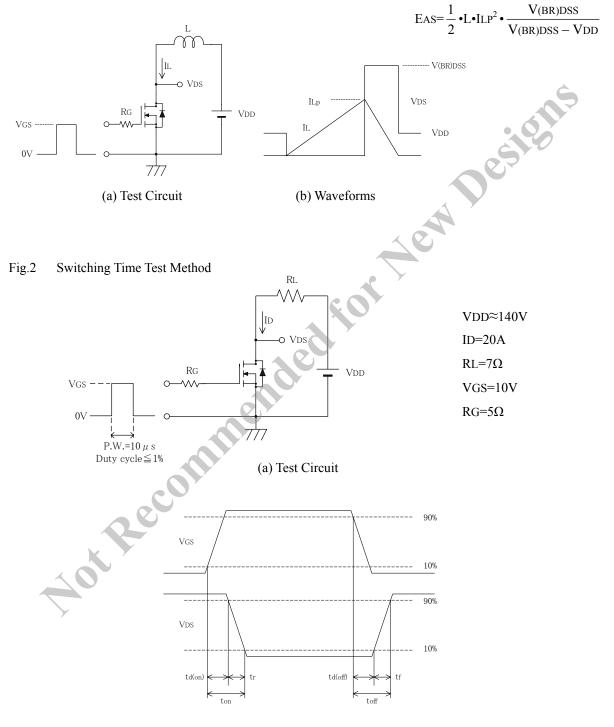
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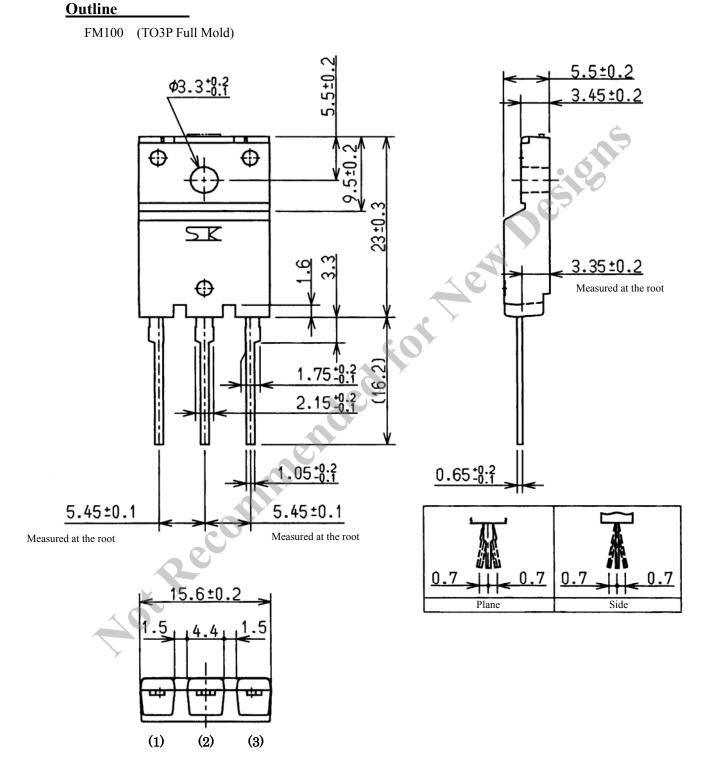
(b) Waveforms

## N-Channel MOS FET

## FKP280A

SanKen

September, 2005



Mass: Approx.6.5g



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Design

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