

FKP280A

September, 2005

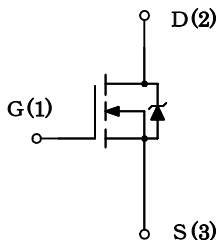
■Features

- 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=25°C)

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

*1. PW ≤ 100 μsec, duty cycle ≤ 1%

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

FKP280A

September, 2005

Electrical characteristics

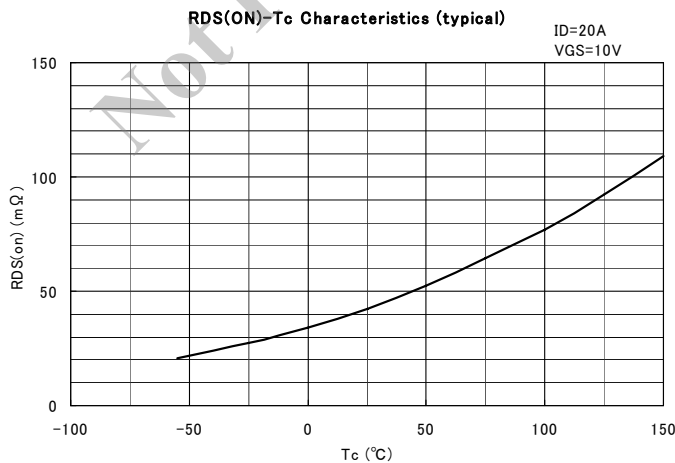
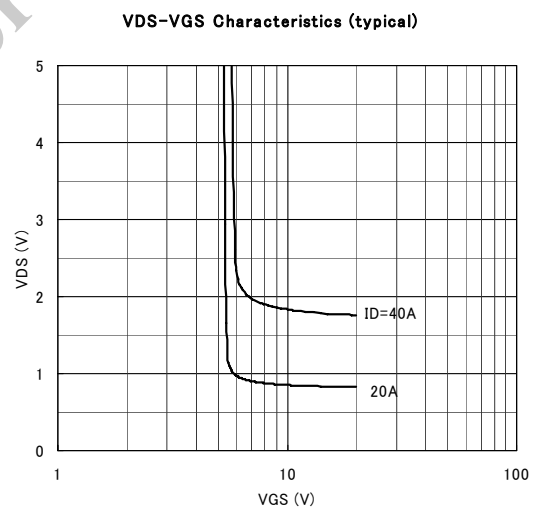
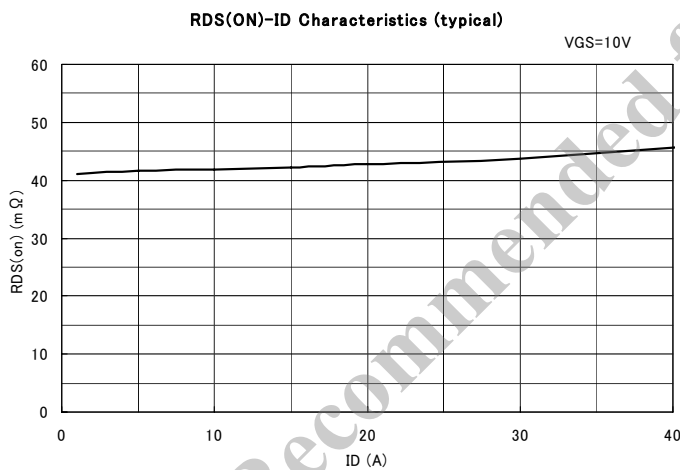
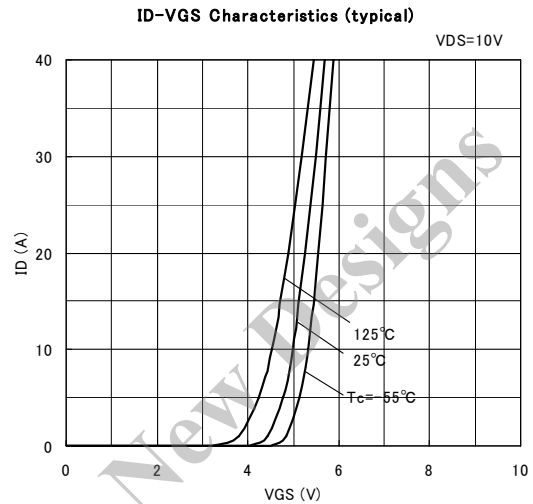
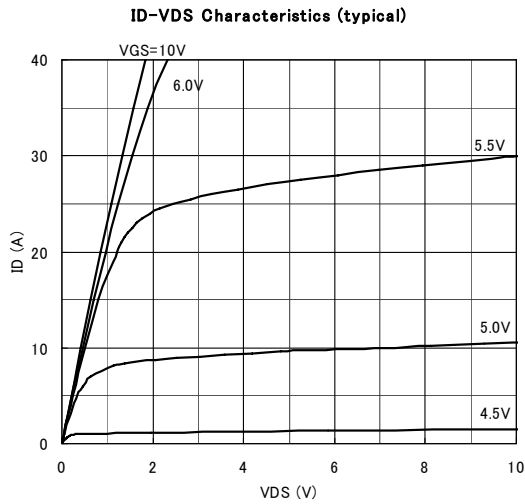
(Ta=25°C)

Parameter	Symbol	Test Conditions	Limits			Unit
			MIN.	TYP.	MAX.	
Drain to Source breakdown Voltage	V(BR)DSS	ID=100μA, VGS=0V	280			V
Gate to Source Leakage Current	IGSS	VGS=±30V			±100	nA
Drain to Source Leakage Current	IDSS	VDS=280V, VGS=0V			100	μA
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		pF
Output Capacitance	Coss	VGS=0V		580		
Reverse Transfer Capacitance	Crss	f=1MHz		190		
Turn-On Delay Time	td(on)	ID=20A, VDD≈140V		40		ns
Rise Time	tr	RL=7Ω, VGS=10V		90		
Turn-Off Delay Time	td(off)	Rg=5Ω		160		
Fall Time	tf	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

FKP280A

September, 2005

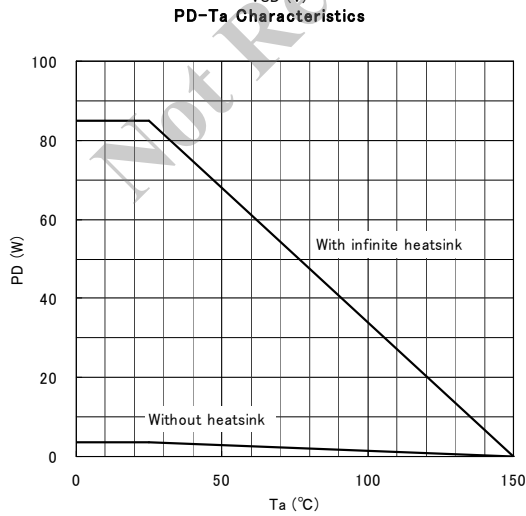
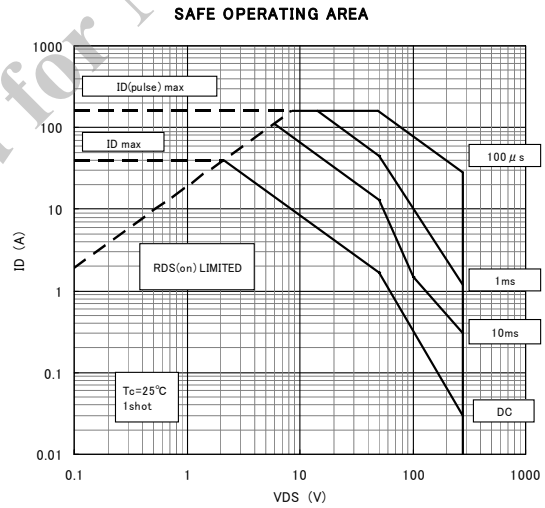
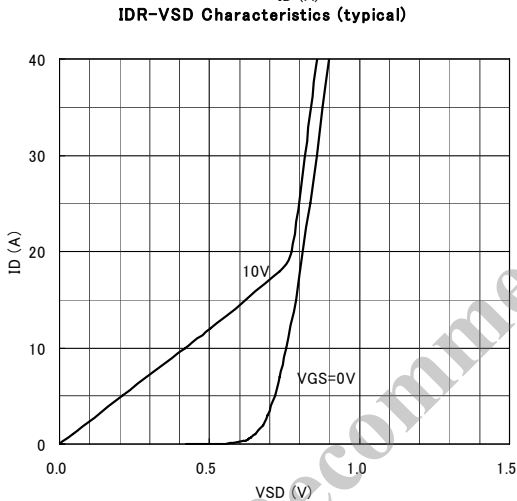
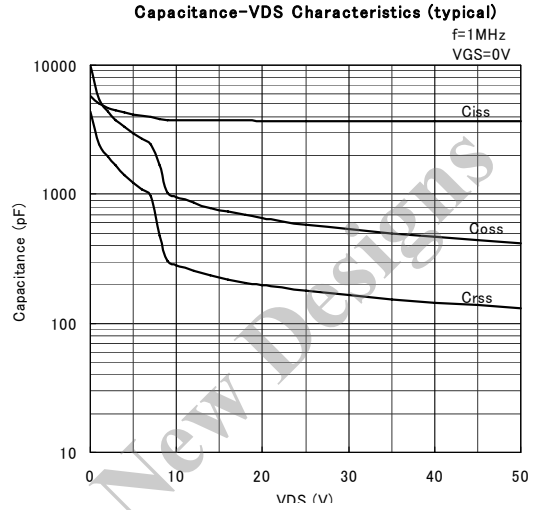
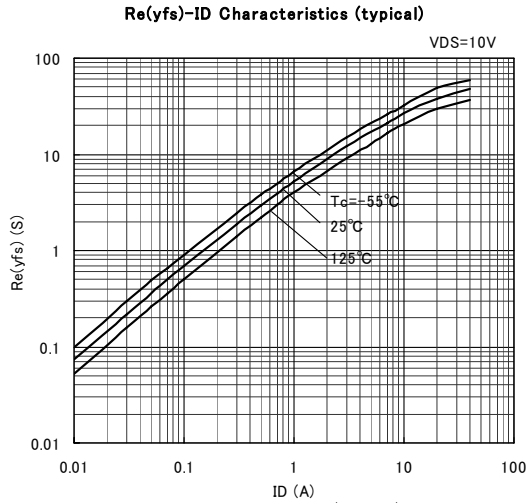
Characteristic Curves (Tc=25°C)



FKP280A

September, 2005

Characteristic Curves (Tc=25°C)



FKP280A

September, 2005

Fig.1 Unclamped Inductive Test Method

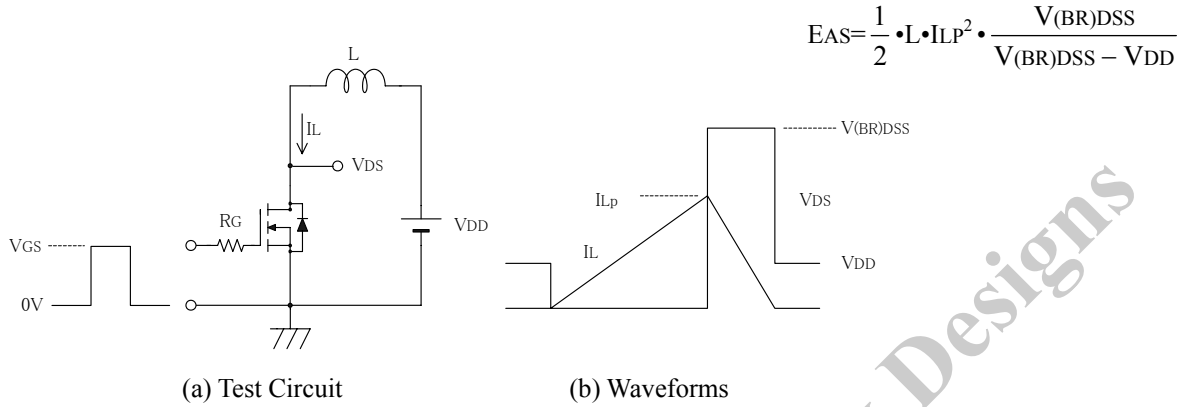
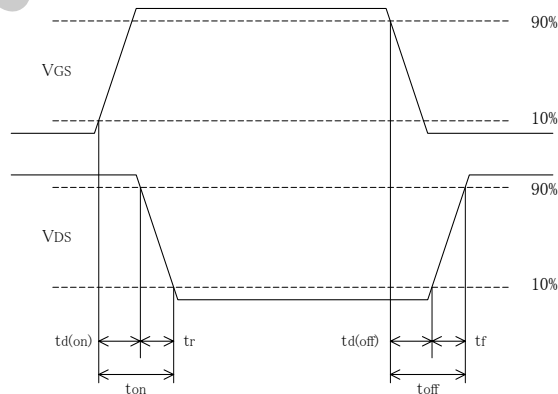
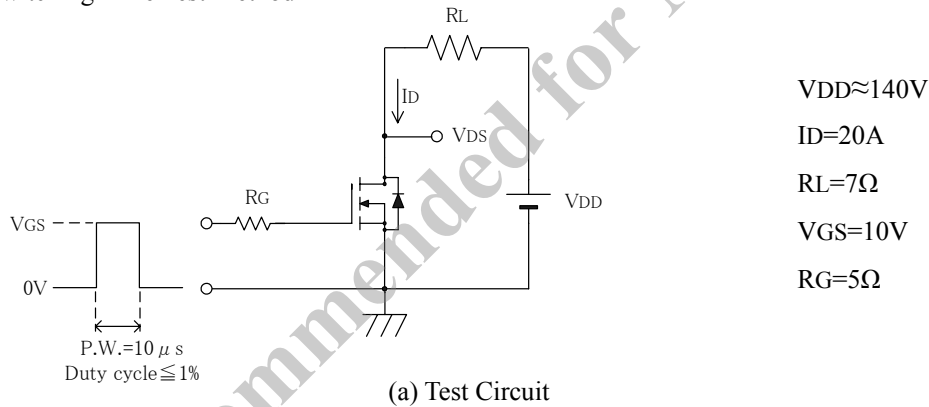


Fig.2 Switching Time Test Method



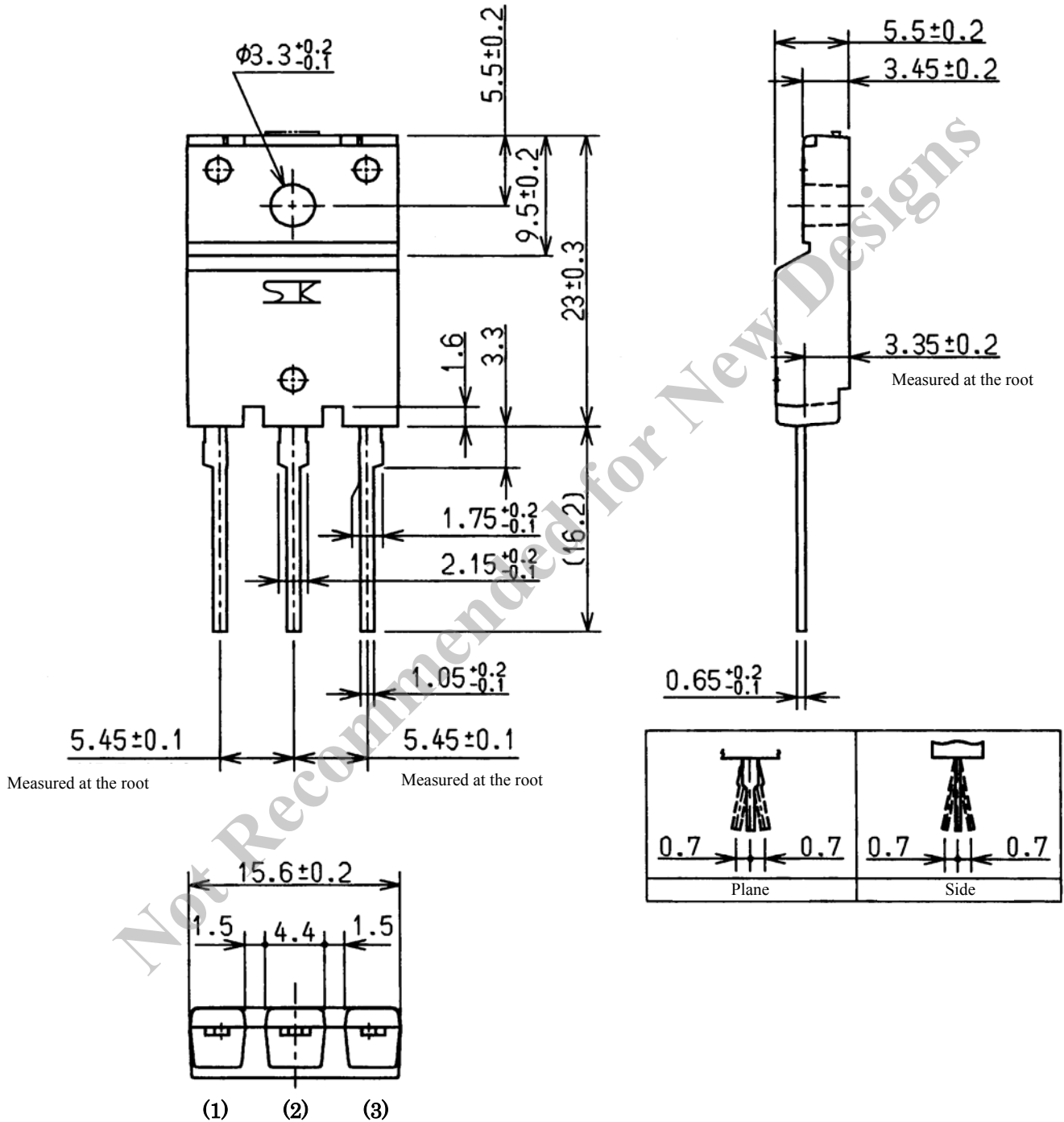
(b) Waveforms

FKP280A

September, 2005

Outline

FM100 (TO3P Full Mold)



Mass: Approx. 6.5g

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