SANYO

No.2463A

2SK686

N-Channel MOS FET

HIGH-SPEED POWER SWITCHING APPLICATIONS

Features

Low-on resistance, very high-speed switching, converters

Absolute Maximum Ratings at Ta=25°C

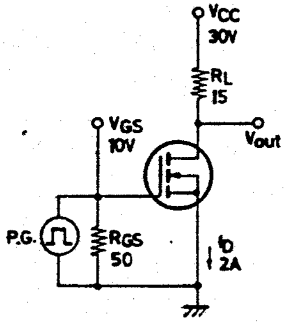
				unit
Drain to Source Voltage	V_{DS}		60	V
Gate to Source Voltage	V_{GS}		±20	V
Drain Current(DC)	I_D		5	A
Peak Drain Current(Pulse)	I_D peak		10	A
Allowable Power Dissipation	P_D	T_C=25°C	40	W
Junction Temperature	Tj		150	°C
Storage Temperature	Tstg		-55 to +150	°C

Electrical Characteristics at Ta=25°C

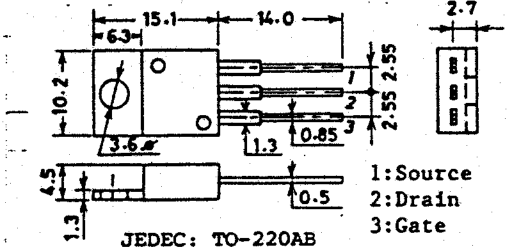
			min	typ	max	unit
D-S Breakdown Voltage	V_{DSS}	I_D=1mA,V_{GS}=0	60			V
Drain Current	I_{DSS}	V_{DS}=60V,V_{GS}=0			100	uA
G-S Leakage Current	I_{GSS}	V_{GS}=±20V,V_{DS}=0			±100	nA
Cutoff Voltage	$V_{GS(off)}$	V_{DS}=10V,I_D=1mA	1.5		4.0	V
Forward Transfer Admittance	$\|y_{fs}\|$	V_{DS}=10V,I_D=2.5A	1.4	2.0		S
Saturation Resistance	$r_{DS(on)}$	I_D=2.5A,V_{GS}=10V		0.2	0.3	ohm
Input Capacitance	c_{iss}	V_{DS}=20V,f=1MHz		350		pF
Output Capacitance	c_{oss}	V_{DS}=20V,f=1MHz		230		pF
Reverse Transfer Capacitance	c_{rss}	V_{DS}=20V,f=1MHz		85		pF
Turn-on Time	t_{on}	I_D=2A,V_{GS}=10V		35		ns
Turn-off Time	t_{off}	I_D=2A,V_{GS}=10V		55		ns

Note: Be careful in handling the 2SK686 because it has no protect diode between gate and source.

Switching Time Test Circuit



Case Outline 2052A
(unit:mm)



1:Source
2:Drain
3:Gate

JEDEC: TO-220AB
EIAJ: SC-46