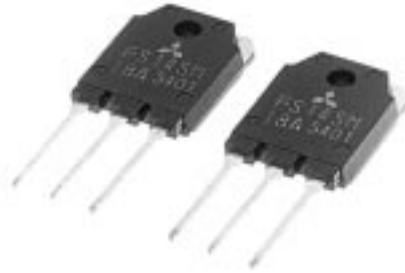


FS14SM-18A

HIGH-SPEED SWITCHING USE

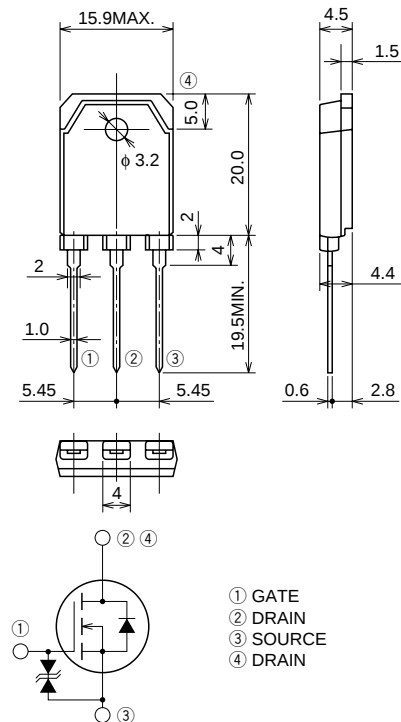
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- V_{DS} 900V
- $r_{DS(ON)}(MAX)$ 0.85Ω
- I_D 14A

OUTLINE DRAWING

Dimensions in mm



TO-3P

APPLICATION

SMPS, DC-DC Converter, battery charger, power supply of printer, copier, HDD, FDD, TV, VCR, personal computer etc.

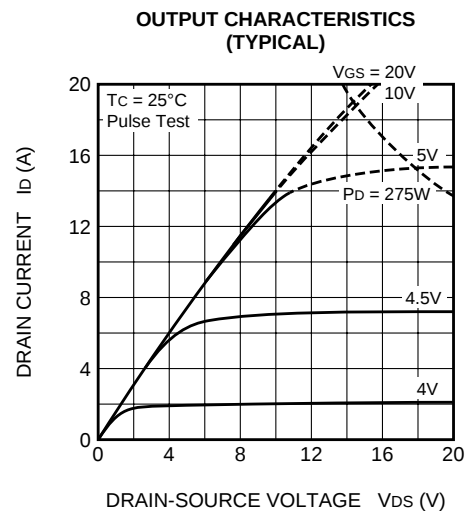
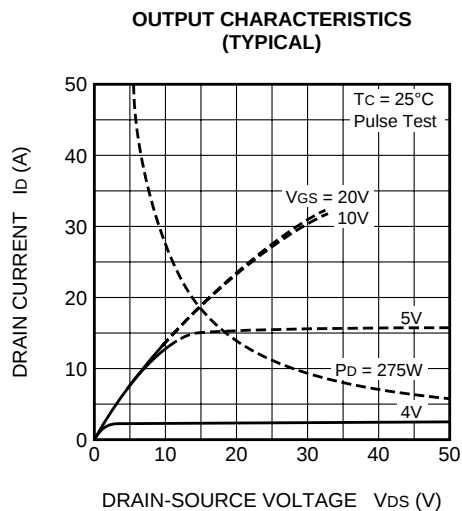
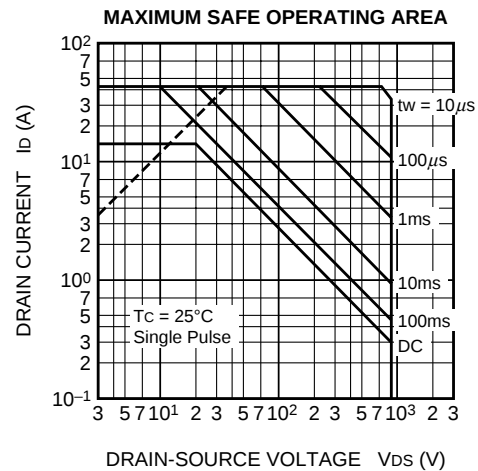
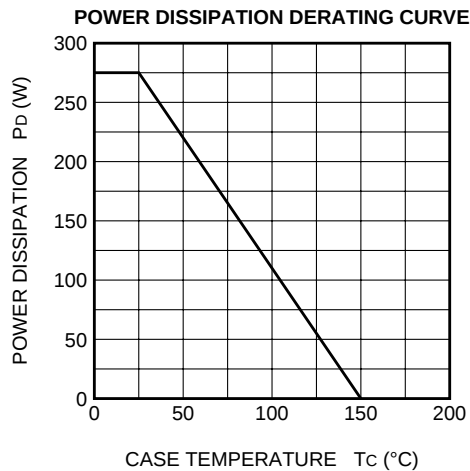
MAXIMUM RATINGS (Tc = 25°C)

Symbol	Parameter	Conditions	Ratings	Unit
V_{DS}	Drain-source voltage	$V_{GS} = 0V$	900	V
V_{GSS}	Gate-source voltage	$V_{DS} = 0V$	± 30	V
I_D	Drain current		14	A
I_{DM}	Drain current (Pulsed)		42	A
P_D	Maximum power dissipation		275	W
T_{ch}	Channel temperature		$-55 \sim +150$	°C
T_{stg}	Storage temperature		$-55 \sim +150$	°C
—	Weight	Typical value	4.8	g

ELECTRICAL CHARACTERISTICS ($T_{ch} = 25^{\circ}\text{C}$)

Symbol	Parameter	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
$V_{(BR)DSS}$	Drain-source breakdown voltage	$I_D = 1\text{mA}$, $V_{GS} = 0\text{V}$	900	—	—	V
$V_{(BR)GSS}$	Gate-source breakdown voltage	$I_{GS} = \pm 100\mu\text{A}$, $V_{DS} = 0\text{V}$	± 30	—	—	V
I_{GSS}	Gate-source leakage current	$V_{GS} = \pm 25\text{V}$, $V_{DS} = 0\text{V}$	—	—	± 10	μA
I_{DSS}	Drain-source leakage current	$V_{DS} = 900\text{V}$, $V_{GS} = 0\text{V}$	—	—	1	mA
$V_{GS(th)}$	Gate-source threshold voltage	$I_D = 1\text{mA}$, $V_{DS} = 10\text{V}$	2	3	4	V
$r_{DS(on)}$	Drain-source on-state resistance	$I_D = 7\text{A}$, $V_{GS} = 10\text{V}$	—	0.63	0.85	Ω
$V_{DS(on)}$	Drain-source on-state voltage	$I_D = 7\text{A}$, $V_{GS} = 10\text{V}$	—	4.41	5.95	V
$ y_{fs} $	Forward transfer admittance	$I_D = 7\text{A}$, $V_{DS} = 10\text{V}$	9.0	15.0	—	S
C_{iss}	Input capacitance	$V_{DS} = 25\text{V}$, $V_{GS} = 0\text{V}$, $f = 1\text{MHz}$	—	2900	—	pF
C_{oss}	Output capacitance		—	290	—	pF
C_{rss}	Reverse transfer capacitance		—	50	—	pF
$t_{d(on)}$	Turn-on delay time	$V_{DD} = 200\text{V}$, $I_D = 7\text{A}$, $V_{GS} = 10\text{V}$, $R_{GEN} = R_{GS} = 50\Omega$	—	45	—	ns
t_r	Rise time		—	65	—	ns
$t_{d(off)}$	Turn-off delay time		—	325	—	ns
t_f	Fall time		—	100	—	ns
V_{SD}	Source-drain voltage	$I_S = 7\text{A}$, $V_{GS} = 0\text{V}$	—	1.0	1.5	V
$R_{th(ch-c)}$	Thermal resistance	Channel to case	—	—	0.45	$^{\circ}\text{C/W}$

PERFORMANCE CURVES



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HIGH-SPEED SWITCHING USE

