



FSS145 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Load switching applications.
- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-45	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-8	A
Drain Current ($PW \leq 10\text{s}$)	I_D	Duty cycle $\leq 1\%$	-8.5	A
Drain Current ($PW \leq 10\mu\text{s}$)	I_{DP}	Duty cycle $\leq 1\%$	-32	A
Allowable Power Dissipation	P_D	Mounted on a ceramic board (1200mm 2 X0.8mm), $PW \leq 10\text{s}$	2.9	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$

Electrical Characteristics at $T_a=25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-45			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-45\text{V}$, $V_{GS}=0\text{V}$			-1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0\text{V}$			± 10	μA
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10\text{V}$, $I_D=-1\text{mA}$	-1.2		-2.6	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10\text{V}$, $I_D=-8\text{A}$	10	17		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-8\text{A}$, $V_{GS}=-10\text{V}$		18	24	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-4\text{A}$, $V_{GS}=-4\text{V}$		28	40	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=-20\text{V}$, $f=1\text{MHz}$		3490		pF
Output Capacitance	C_{oss}	$V_{DS}=-20\text{V}$, $f=1\text{MHz}$		370		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=-20\text{V}$, $f=1\text{MHz}$		290		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		35		ns
Rise Time	t_r	See specified Test Circuit.		65		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		270		ns
Fall Time	t_f	See specified Test Circuit.		125		ns

Marking : S145

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FSS145

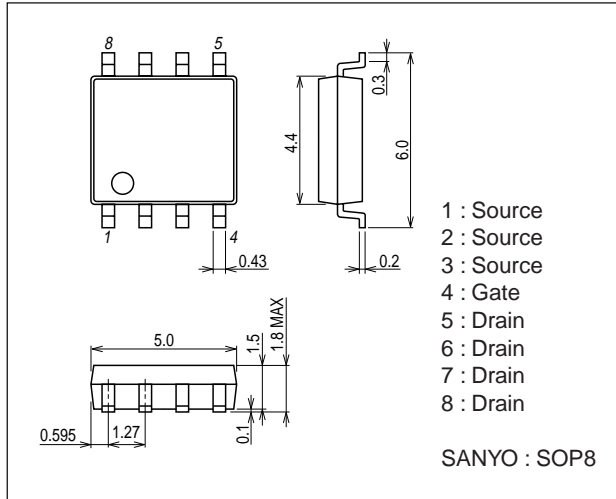
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=-24V, V_{GS}=-10V, I_D=-8A$		63		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-24V, V_{GS}=-10V, I_D=-8A$		9		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-24V, V_{GS}=-10V, I_D=-8A$		12		nC
Diode Forward Voltage	VSD	$I_S=-8A, V_{GS}=0V$		-0.81	-1.5	V

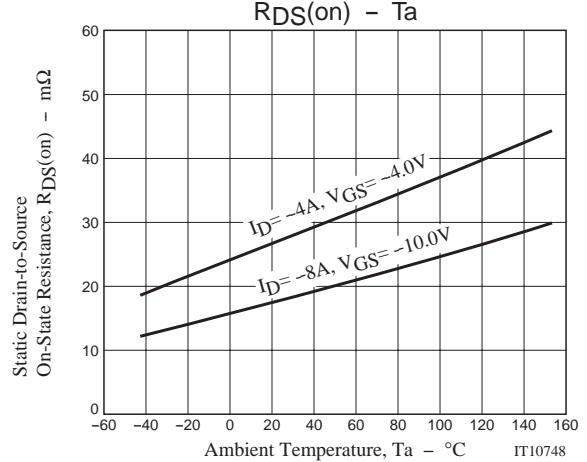
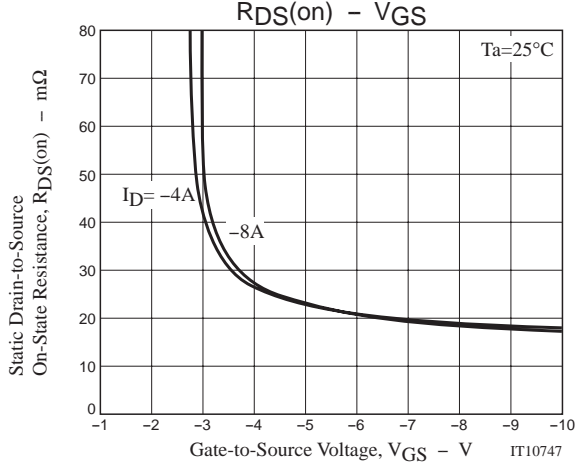
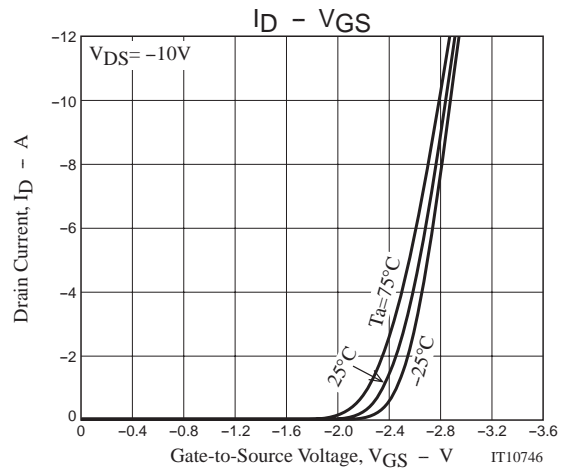
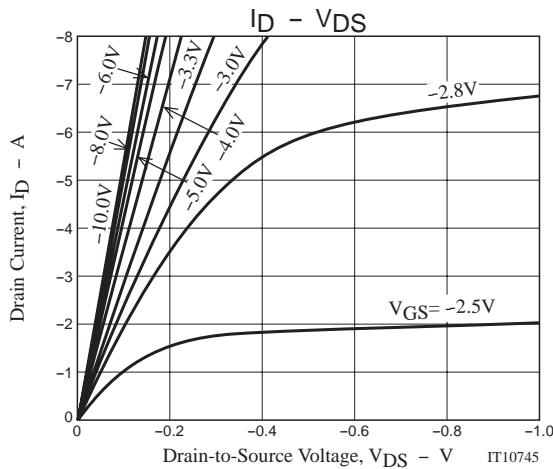
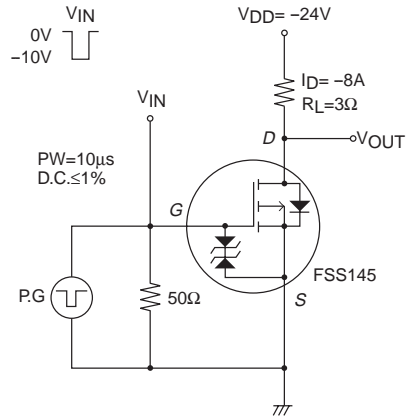
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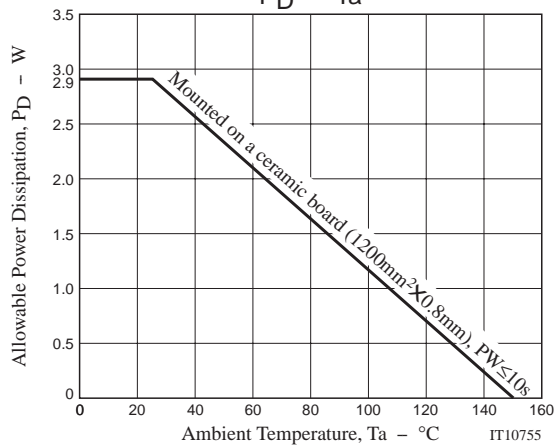
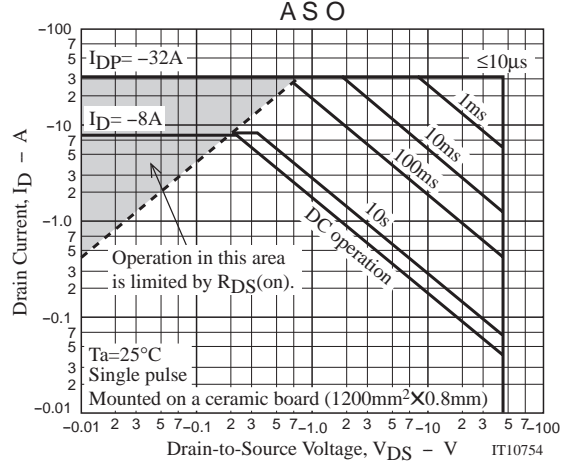
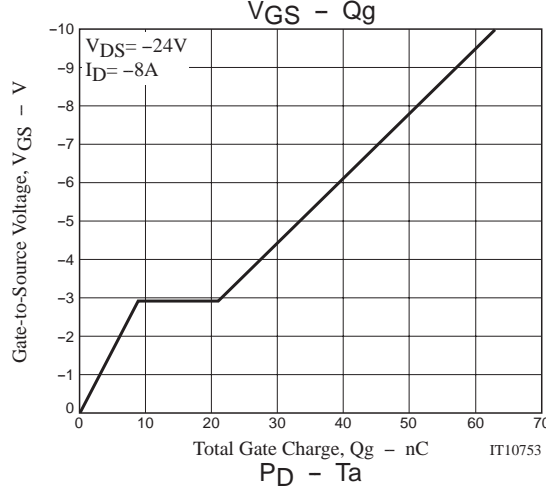
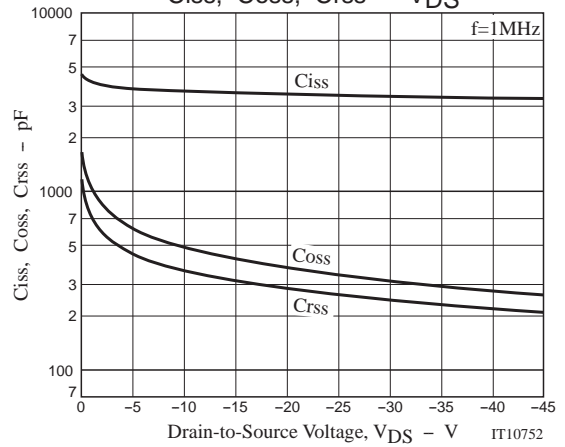
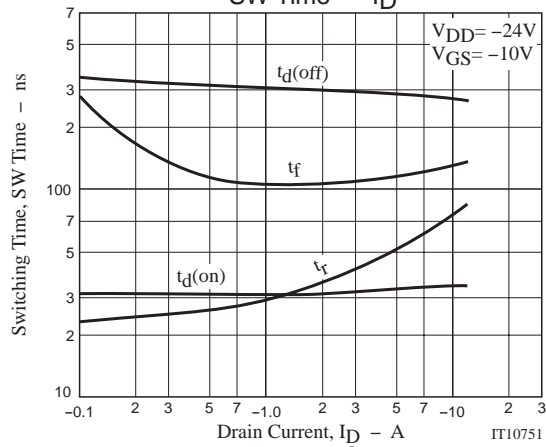
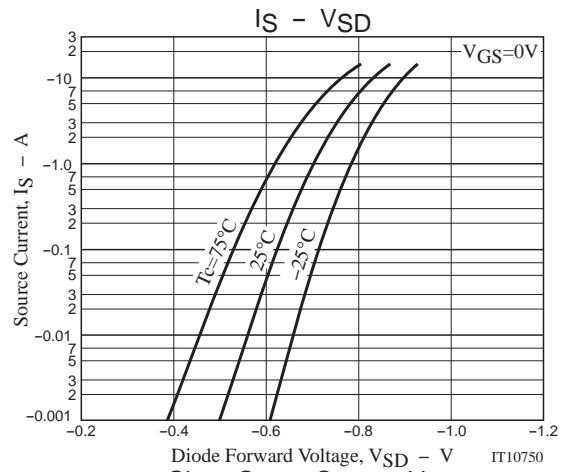
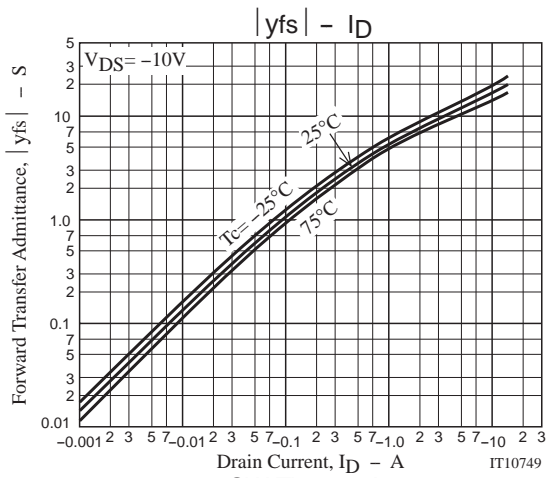
unit : mm

7005-002



Switching Time Test Circuit





Note on usage : Since the FSS145 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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