

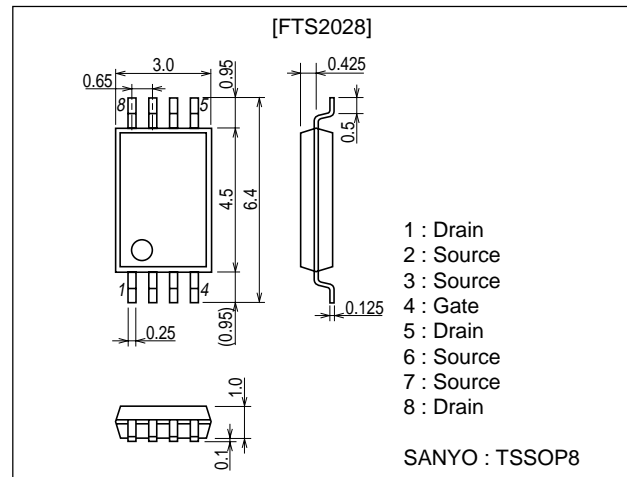
**FTS2028****DC / DC Converter Applications****Features**

- Low ON-resistance.
- 4V drive.
- Mounting height 1.1mm.
- Ultrahigh-speed switching.

**Package Dimensions**

unit : mm

2147A

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		30	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 20$	V
Drain Current (DC)	$I_D$		6	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	25	A
Allowable Power Dissipation	$P_D$	Mounted on a ceramic board (1000mm $\times$ 0.8mm)	1.3	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	$V_{(BR)DSS}$	$I_D=1\text{mA}$ , $V_{GS}=0$	30			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=30\text{V}$ , $V_{GS}=0$			1	$\mu\text{A}$
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 16\text{V}$ , $V_{DS}=0$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=10\text{V}$ , $I_D=1\text{mA}$	1.0		2.4	V
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=10\text{V}$ , $I_D=6\text{A}$	6.3	9		S

Marking : S2028

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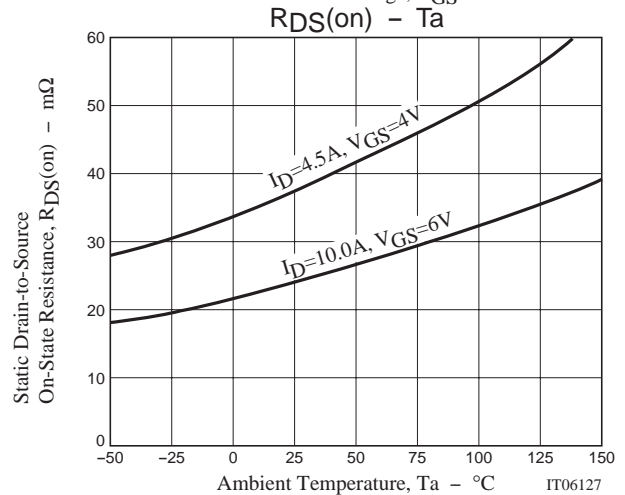
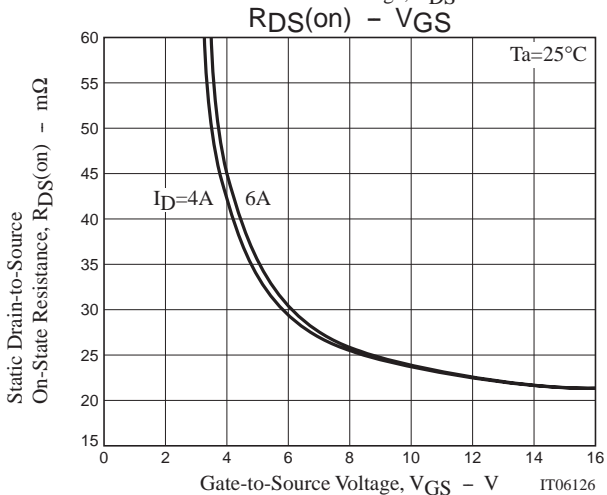
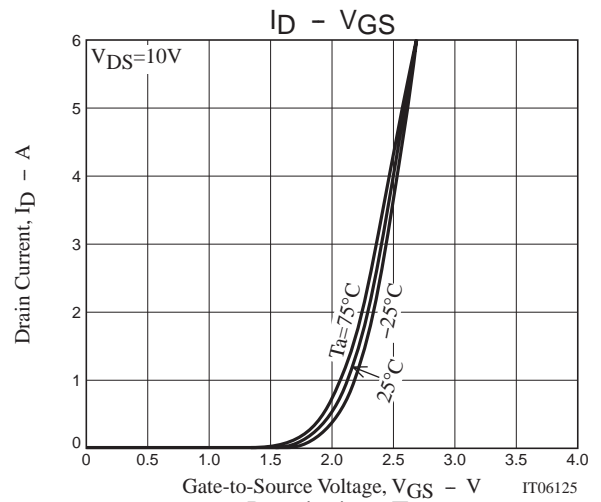
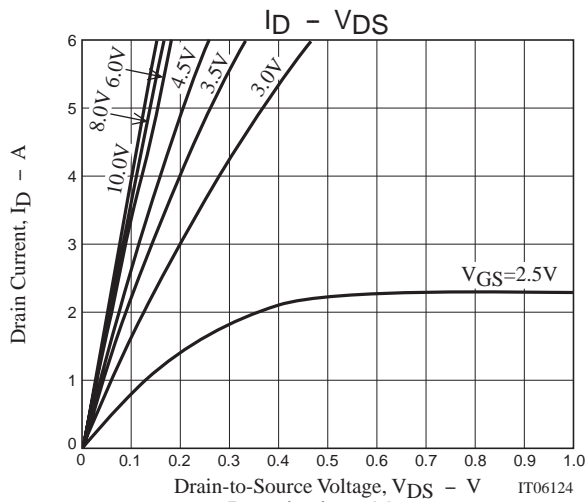
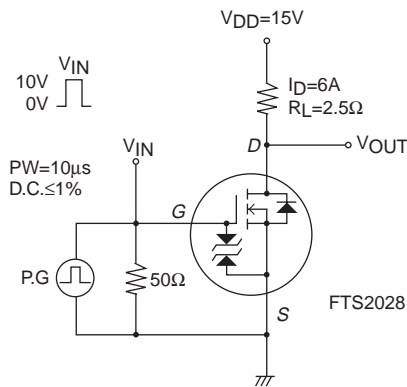
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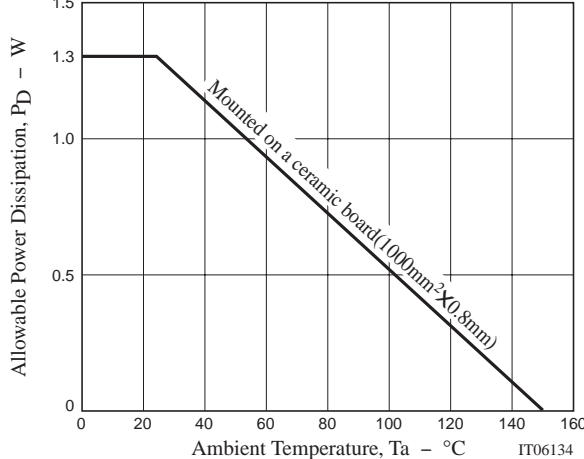
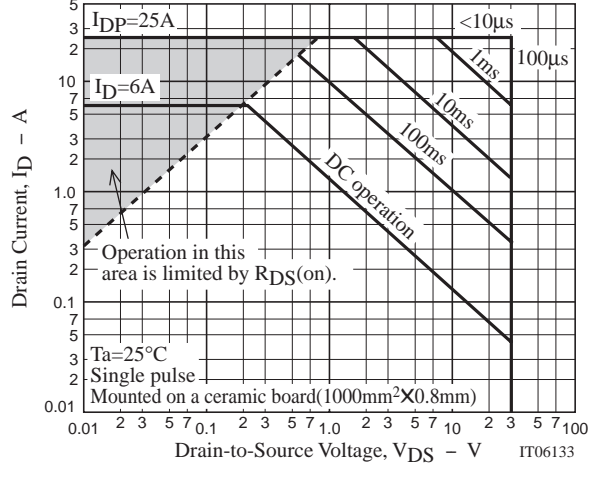
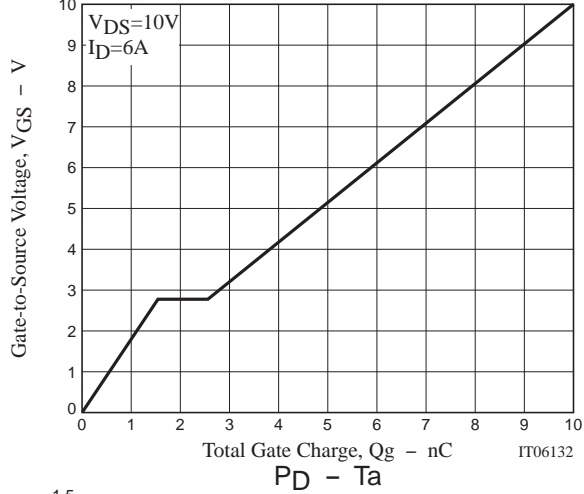
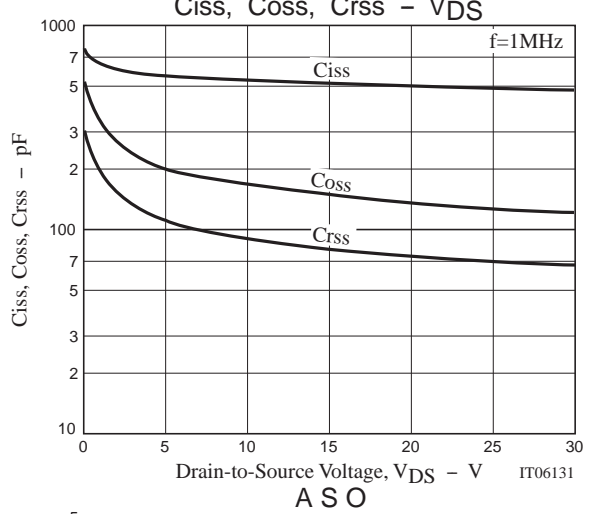
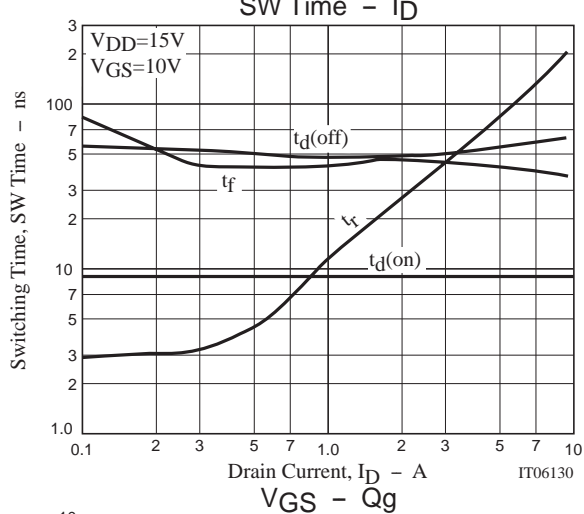
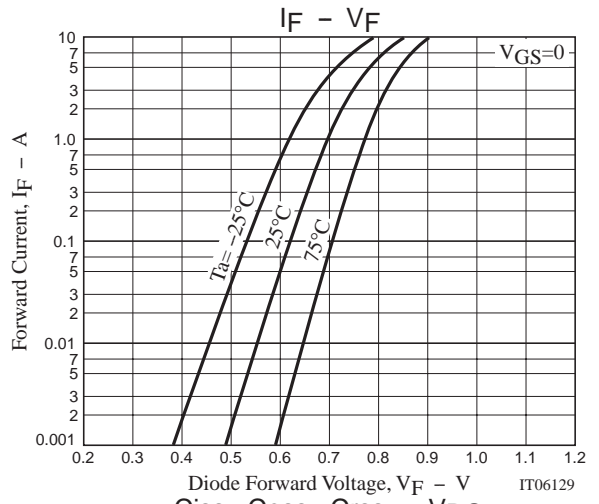
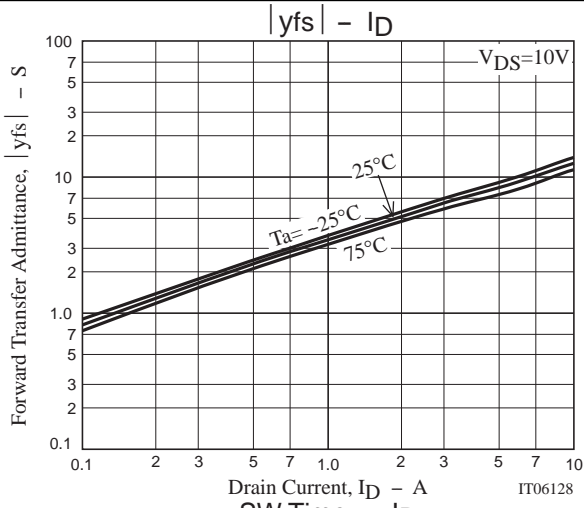
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=6A, V_{GS}=10V$		24	32	$m\Omega$
	$R_{DS(on)2}$	$I_D=4A, V_{GS}=4.5V$		37	52	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=10V, f=1MHz$		530		$pF$
Output Capacitance	$C_{oss}$	$V_{DS}=10V, f=1MHz$		170		$pF$
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=10V, f=1MHz$		90		$pF$
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		9		ns
Rise Time	$t_r$	See specified Test Circuit.		110		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		41		ns
Fall Time	$t_f$	See specified Test Circuit.		58		ns
Total Gate Charge	$Q_g$	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		10		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		1.5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=10V, V_{GS}=10V, I_D=6A$		1.0		nC
Diode Forward Voltage	$V_{SD}$	$I_S=6A, V_{GS}=0$		0.8	1.2	V

## Switching Time Test Circuit





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