



Ultrahigh-Speed Switching Applications

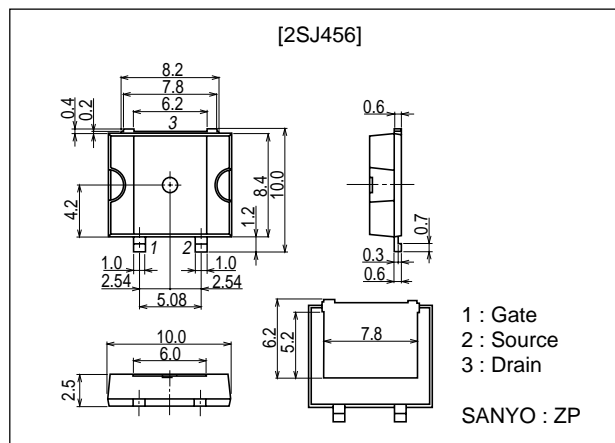
Features

- Low ON-resistance.
- High-speed diode incorporated.
- Enables simplified fabrication, high-density mounting, and miniaturization in end products due to the surface mountable package.

Package Dimensions

unit : mm

2128



Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-250	V
Gate-to-Source Voltage	V _{GSS}		±30	V
Drain Current (DC)	I _D		-9	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-36	A
Allowable Power Dissipation	P _D	Tc=25°C	50	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

Electrical Characteristics at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V _{(BR)DSS}	I _D =-1mA, V _{GS} =0	-250			V
Gate-to-Source Breakdown Voltage	V _{(BR)GSS}	I _G =±100μA, V _{DS} =0	±30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-250V, V _{GS} =0			-1.0	mA
Gate-to-Source Leakage Current	I _{GSS}	V _{GS} =±25V, V _{DS} =0			±10	μA
Cutoff Voltage	V _{GS(off)}	V _{DS} =-10V, I _D =-1mA	-2.0		-3.0	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-5A	4.8	8.0		S
Static Drain-to-Source On-State Resistance	R _{DS(on)}	I _D =-5A, V _{GS} =-10V		0.4	0.55	Ω
Input Capacitance	C _{iss}	V _{DS} =-20V, f=1MHz		1950		pF
Output Capacitance	C _{oss}	V _{DS} =-20V, f=1MHz		505		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-20V, f=1MHz		230		pF

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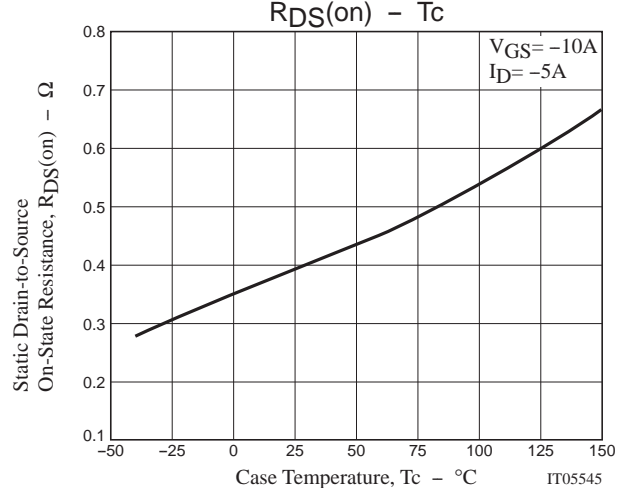
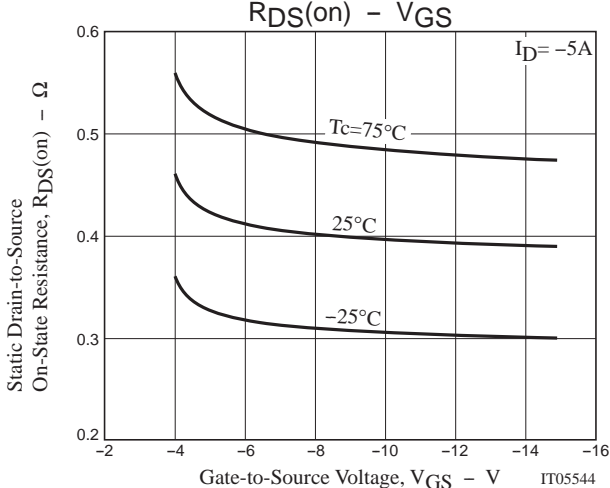
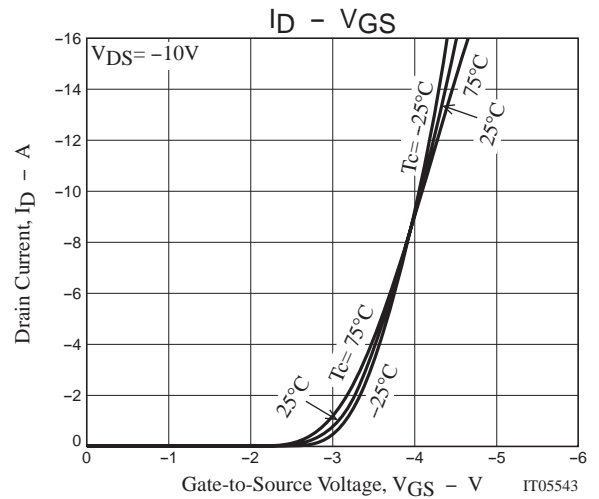
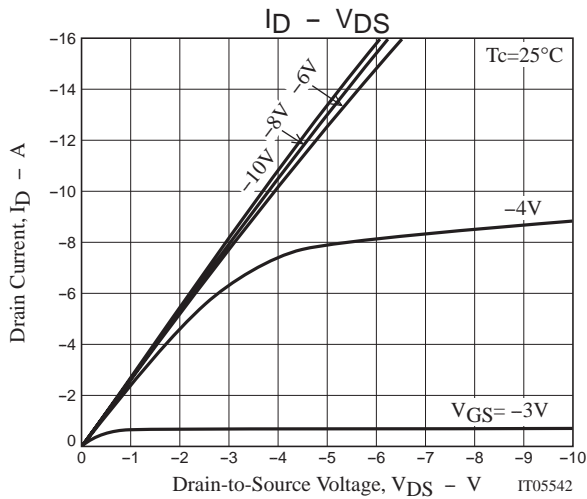
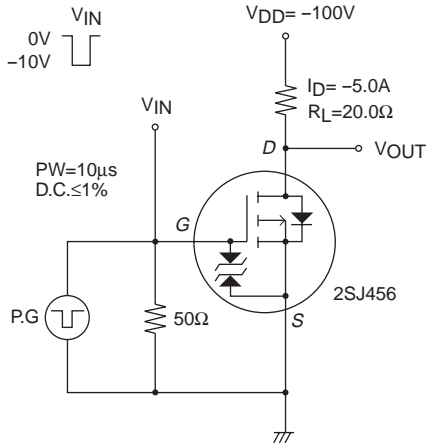
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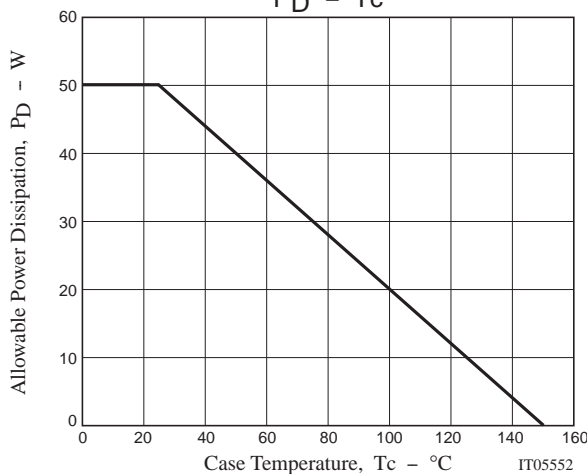
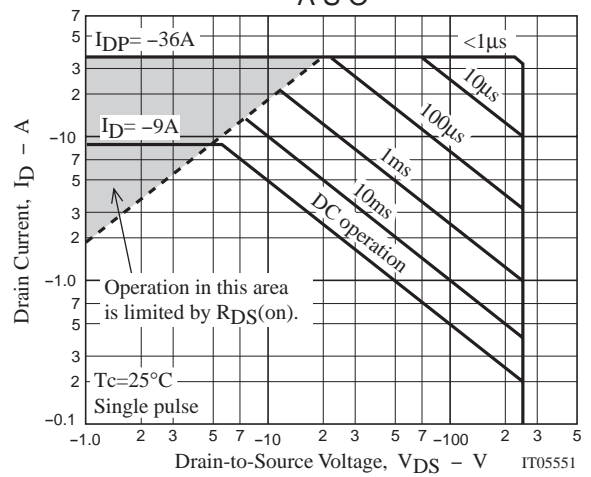
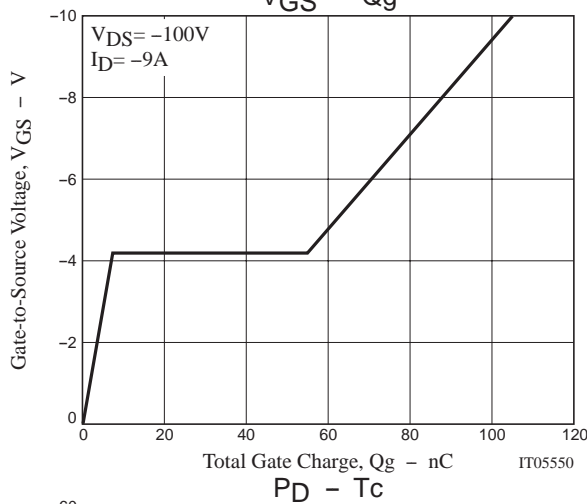
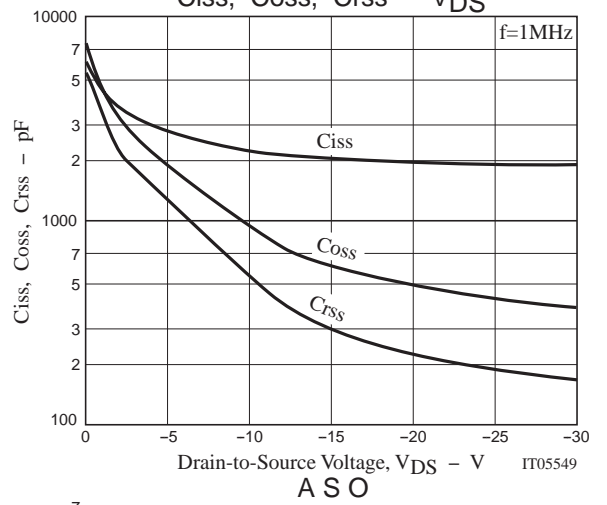
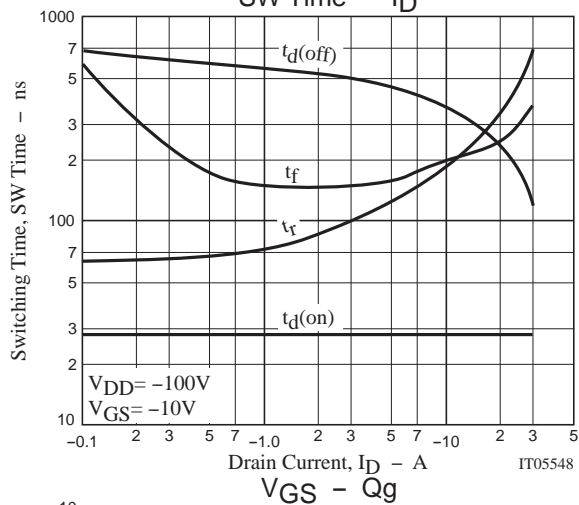
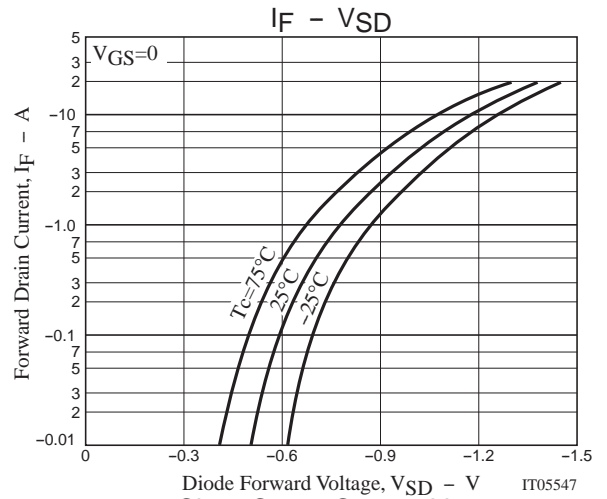
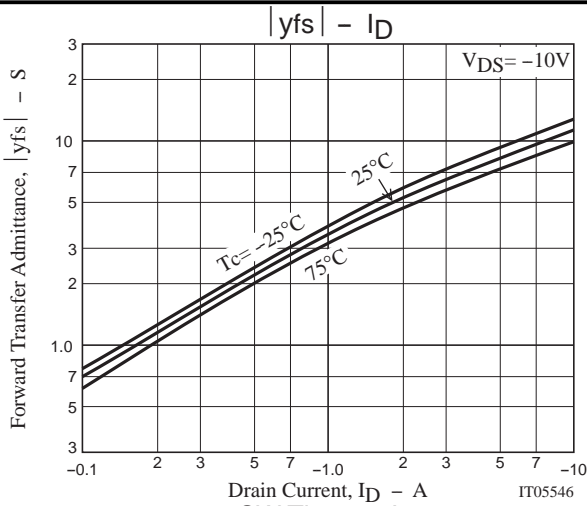
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		28		ns
Rise Time	t_r	See specified Test Circuit.		125		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		460		ns
Fall Time	t_f	See specified Test Circuit.		160		ns
Diode Forward Voltage	V_{SD}	$I_S = -9A, V_{GS} = 0$		-1.0	-1.5	V
Diode Reverse Recovery Time	t_{rr}	$I_S = -9A, di/dt = 100A/\mu s$		180		ns

Switching Time Test Circuit



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