



SANYO Semiconductors

**DATA SHEET**

# 2SJ405 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

**Features**

- Low ON-state resistance.
- Ultrahigh-speed switching.
- Low-voltage drive.
- Micaless package facilitating easy mounting.

**Specifications****Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		-200	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		-8	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	-32	A
Allowable Power Dissipation	P <sub>D</sub>		2	W
		Tc=25°C	30	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-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 <sub>D</sub> =-1mA, V <sub>GS</sub> =0V	-200			V
Gate-to-Source Breakdown Voltage	V(BR)GSS	I <sub>D</sub> =±100μA, V <sub>GS</sub> =0V	±20			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =-200V, V <sub>GS</sub> =0V			-100	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> =±16V, V <sub>DS</sub> =0V			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =-10V, I <sub>D</sub> =-1mA	-1.5		-2.5	V

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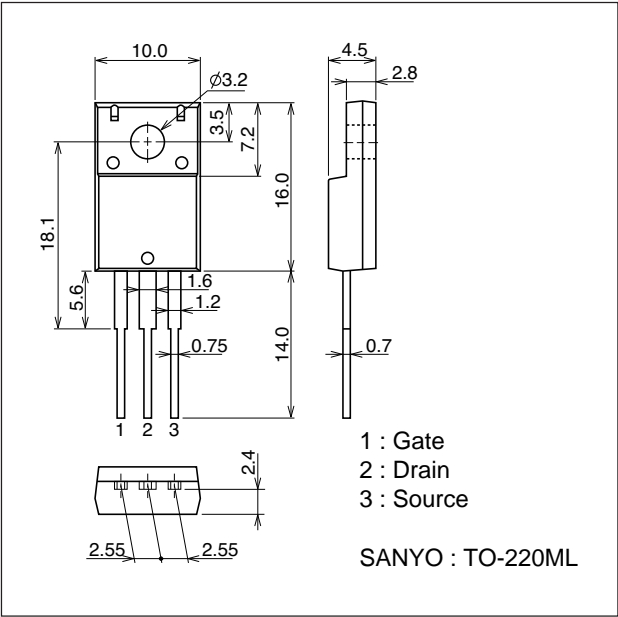
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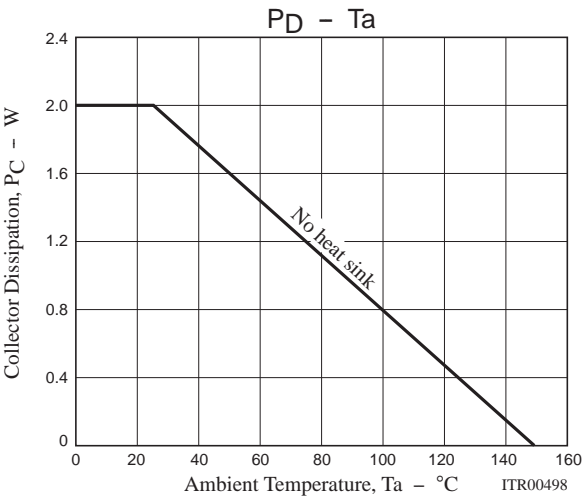
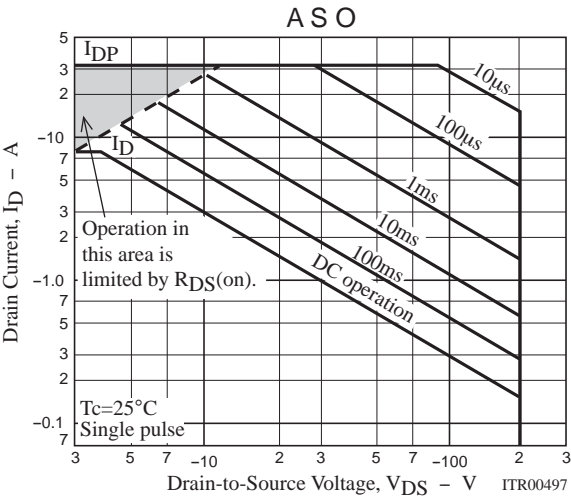
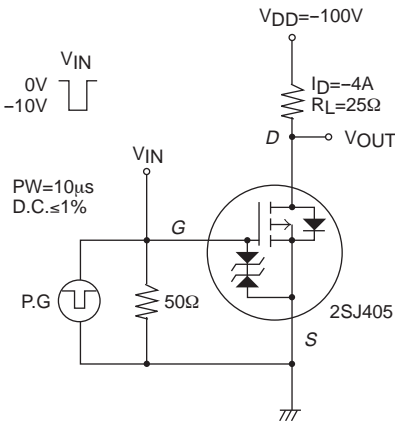
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-4A$	3.3	5.5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=-4A, V_{GS}=-10V$		370	500	mΩ
Input Capacitance	$C_{iss}$	$V_{DS}=-20V, f=1MHz$		1100		pF
Output Capacitance	$C_{oss}$	$V_{DS}=-20V, f=1MHz$		260		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=-20V, f=1MHz$		125		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		24		ns
Rise Time	$t_r$	See specified Test Circuit.		60		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		350		ns
Fall Time	$t_f$	See specified Test Circuit.		150		ns
Diode Forward Voltage	$V_{SD}$	$I_S=-8A, V_{GS}=0V$		-1.0	-1.5	V

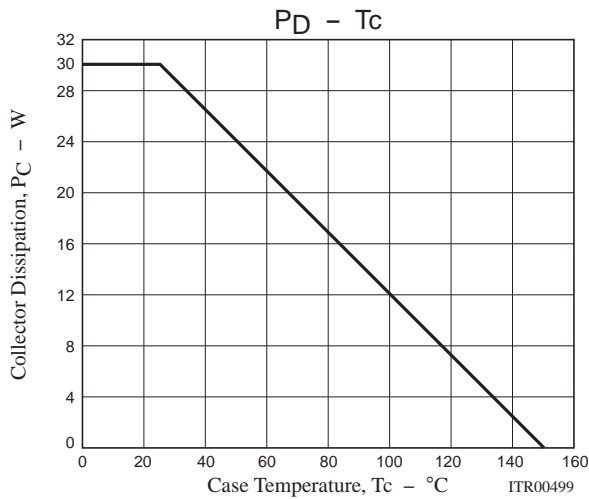
Package Dimensions

unit : mm (typ)  
7508-003



Switching Time Test Circuit





Note on usage : Since the 2SJ405 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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