



# 2SJ455 — P-Channel Silicon MOSFET

## General-Purpose Switching Device Applications

### Features

- Low ON-state resistance.
- High-speed switching.
- Surface mount type device making the following possible.
  - Reduction in the number of manufacturing processes for 2SJ455-applied equipment.
  - High density surface mount applications.
  - Small size of 2SJ455-applied equipment.

### Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	$V_{DSS}$		-250	V
Gate-to-Source Voltage	$V_{GSS}$		$\pm 30$	V
Drain Current (DC)	$I_D$		-7	A
Drain Current (Pulse)	$I_{DP}$	$PW \leq 10\mu\text{s}$ , duty cycle $\leq 1\%$	-28	A
Allowable Power Dissipation	$P_D$	$T_c=25^\circ\text{C}$	45	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	$V_{(BR)DSS}$	$I_D=-1\text{mA}$ , $V_{GS}=0\text{V}$	-250			V
Gate-to-Source Breakdown Voltage	$V_{(BR)GSS}$	$I_G=\pm 100\mu\text{A}$ , $V_{DS}=0\text{V}$	$\pm 30$			V
Zero-Gate Voltage Drain Current	$I_{DSS}$	$V_{DS}=-250\text{V}$ , $V_{GS}=0\text{V}$			-1.0	mA
Gate-to-Source Leakage Current	$I_{GSS}$	$V_{GS}=\pm 25\text{V}$ , $V_{DS}=0\text{V}$			$\pm 10$	$\mu\text{A}$
Cutoff Voltage	$V_{GS(off)}$	$V_{DS}=-10\text{V}$ , $I_D=-1\text{mA}$	-2.0		-3.0	V

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# 2SJ455

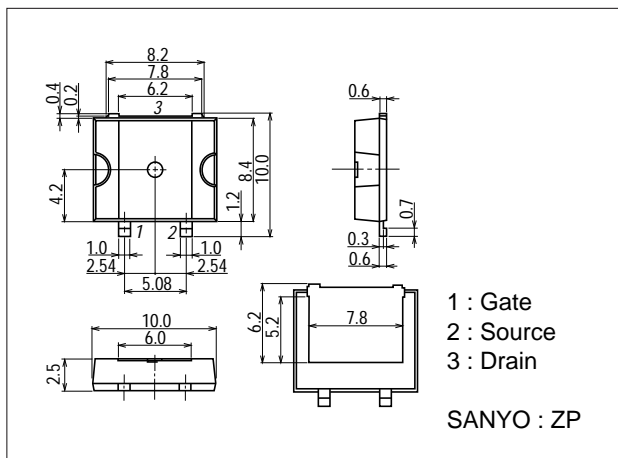
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Forward Transfer Admittance	$ y_{fs} $	$V_{DS}=-10V, I_D=-4A$	3.6	6.0		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)}$	$I_D=-4A, V_{GS}=-10V$		0.6	0.85	$\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=-20V, f=1MHz$		1290		pF
Output Capacitance	$C_{oss}$	$V_{DS}=-20V, f=1MHz$		330		pF
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=-20V, f=1MHz$		155		pF
Turn-ON Delay Time	$t_{d(on)}$	See specified Test Circuit.		22		ns
Rise Time	$t_r$	See specified Test Circuit.		90		ns
Turn-OFF Delay Time	$t_{d(off)}$	See specified Test Circuit.		300		ns
Fall Time	$t_f$	See specified Test Circuit.		95		ns
Diode Forward Voltage	$V_{SD}$	$I_S=-7A, V_{GS}=0V$		-1.0	-1.5	V
Diode Reverse Recovery Time	$t_{rr}$	$I_S=-7A, di/dt=100A/\mu s$		160		ns

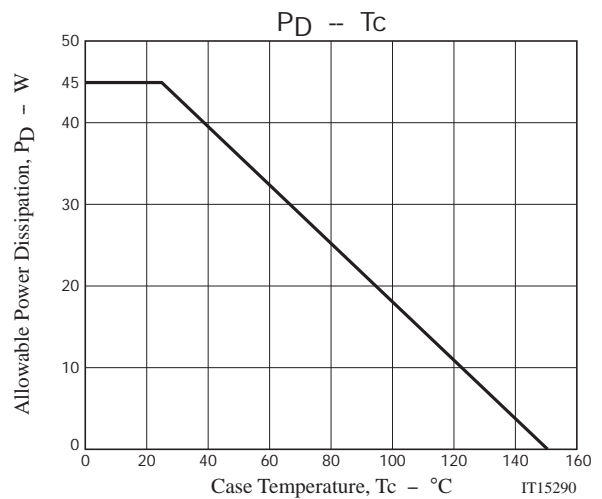
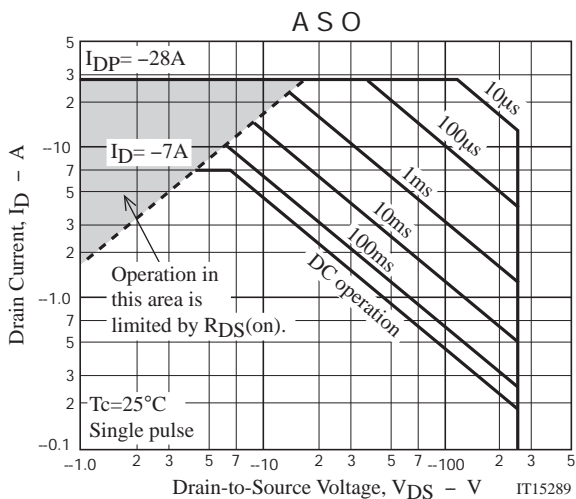
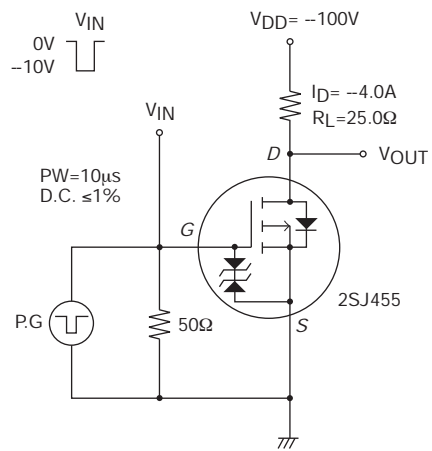
## Package Dimensions

unit : mm (typ)

7002-001



## Switching Time Test Circuit



Note on usage : Since the 2SJ455 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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