



2SJ664 — P-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.
- Motor drive, DC / DC converter.
- Avalanche resistance guarantee.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		-100	V
Gate-to-Source Voltage	V_{GSS}		± 20	V
Drain Current (DC)	I_D		-17	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	-68	A
Allowable Power Dissipation	P_D		1.65	W
		$T_c=25^\circ\text{C}$	50	W
Channel Temperature	T_{ch}		150	$^\circ\text{C}$
Storage Temperature	T_{stg}		-55 to +150	$^\circ\text{C}$
Avalanche Energy (Single Pulse) *1	E_{AS}		38	mJ
Avalanche Current *2	I_{AV}		-17	A

Note : *1 $V_{DD}=30\text{V}$, $L=200\mu\text{H}$, $I_{AV}=-17\text{A}$

*2 $L \leq 200\mu\text{H}$, Single pulse

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

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D=-1\text{mA}$, $V_{GS}=0\text{V}$	-100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=-100\text{V}$, $V_{GS}=0\text{V}$			-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} $	$V_{DS}=-10\text{V}$, $I_D=-8\text{A}$	9	15		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=-8\text{A}$, $V_{GS}=-10\text{V}$		102	136	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=-8\text{A}$, $V_{GS}=-4\text{V}$		138	193	$\text{m}\Omega$

Marking : J664

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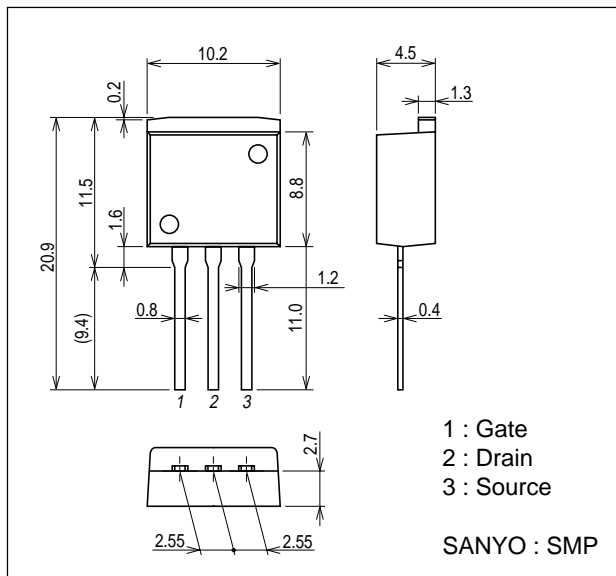
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V _{DS} =-20V, f=1MHz		2090		pF
Output Capacitance	Coss	V _{DS} =-20V, f=1MHz		155		pF
Reverse Transfer Capacitance	Crss	V _{DS} =-20V, f=1MHz		108		pF
Turn-ON Delay Time	t _{d(on)}	See specified Test Circuit.		17		ns
Rise Time	t _r	See specified Test Circuit.		105		ns
Turn-OFF Delay Time	t _{d(off)}	See specified Test Circuit.		185		ns
Fall Time	t _f	See specified Test Circuit.		98		ns
Total Gate Charge	Q _g	V _{DS} =-50V, V _{GS} =-10V, I _D =-17A		41		nC
Gate-to-Source Charge	Q _{gs}	V _{DS} =-50V, V _{GS} =-10V, I _D =-17A		7		nC
Gate-to-Drain "Miller" Charge	Q _{gd}	V _{DS} =-50V, V _{GS} =-10V, I _D =-17A		9		nC
Diode Forward Voltage	V _{SD}	I _S =-17A, V _{GS} =0V	-0.93		-1.2	V

Package Dimensions

unit : mm

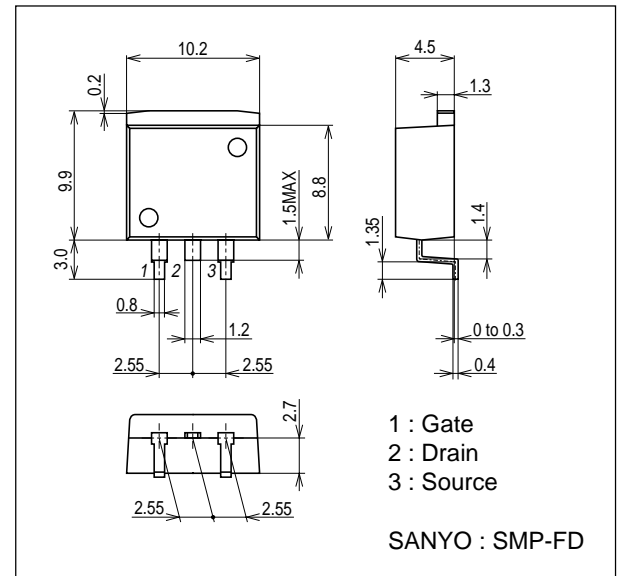
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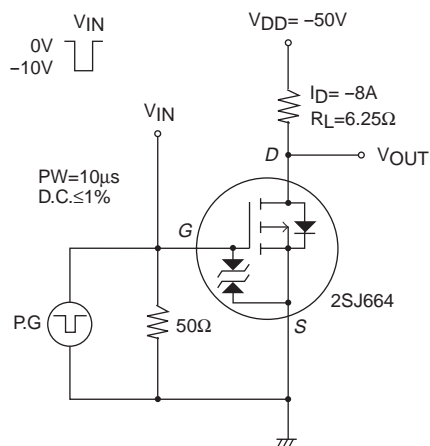
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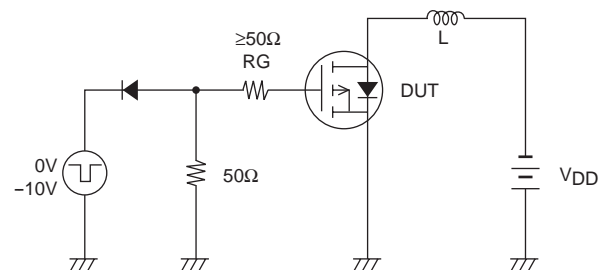
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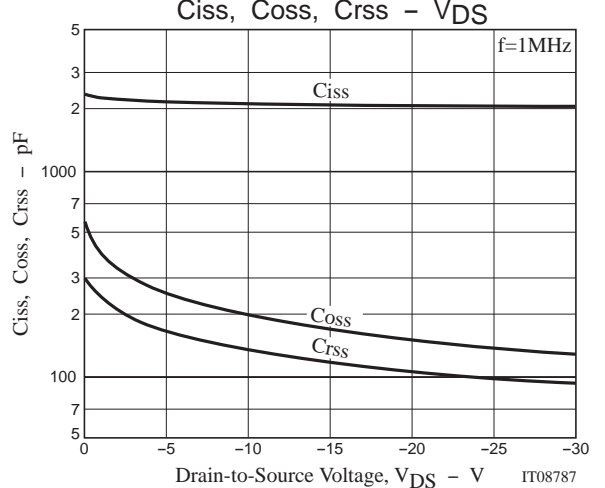
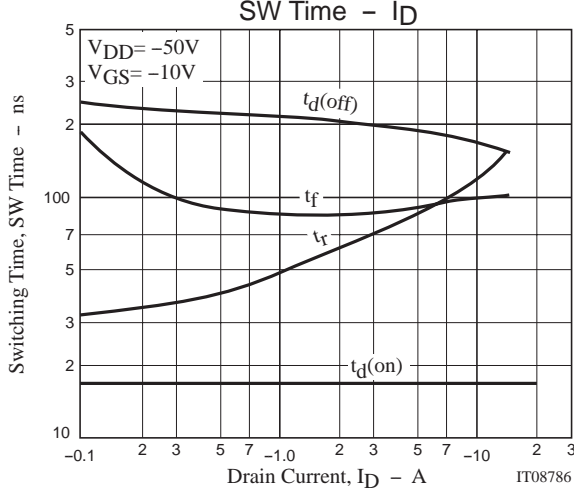
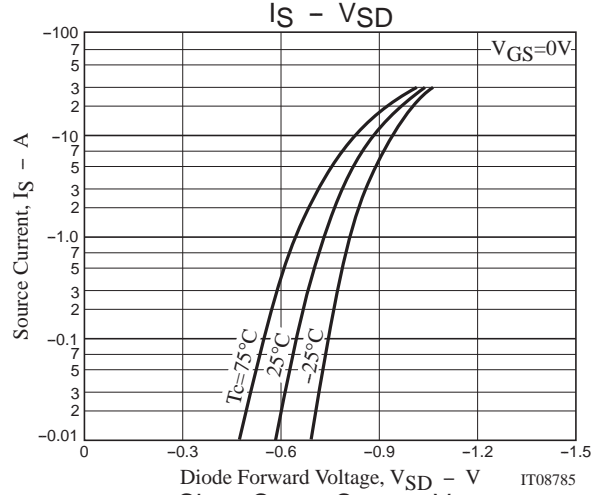
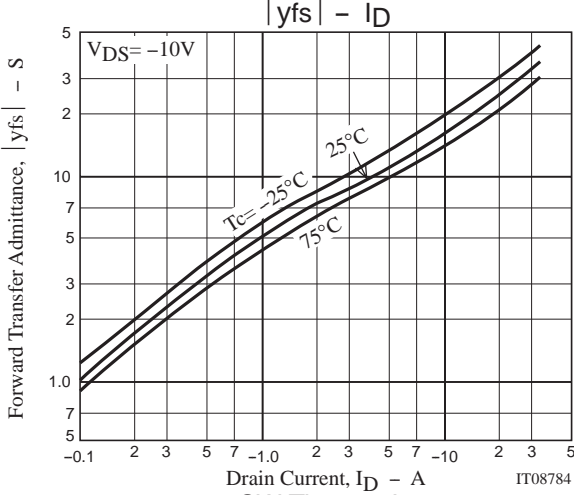
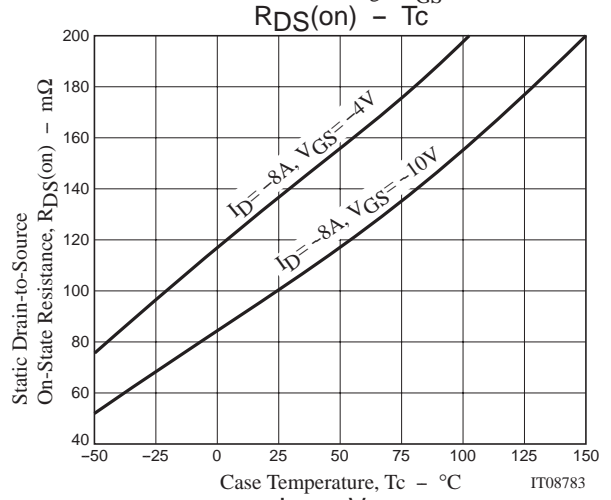
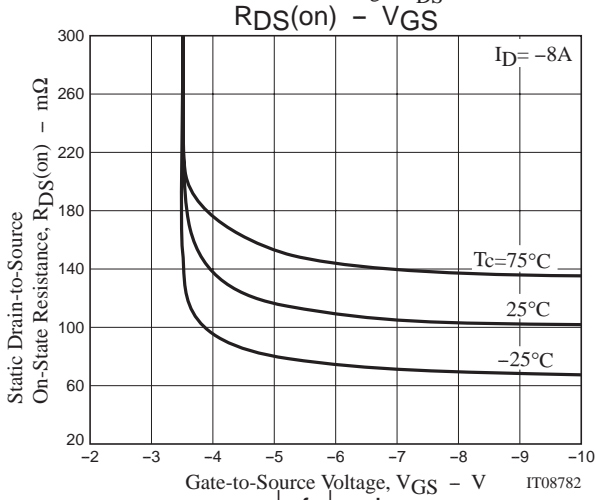
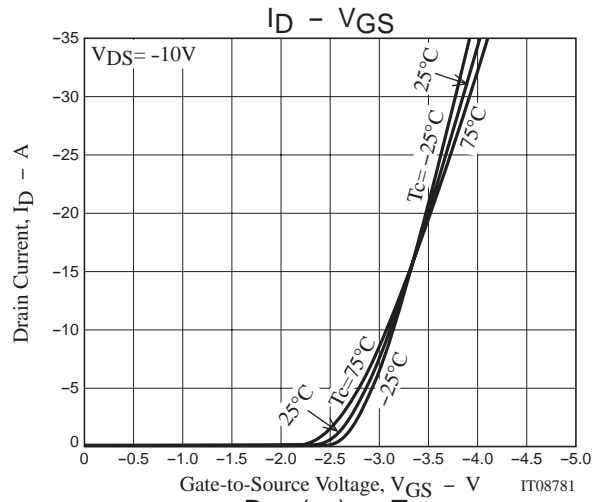
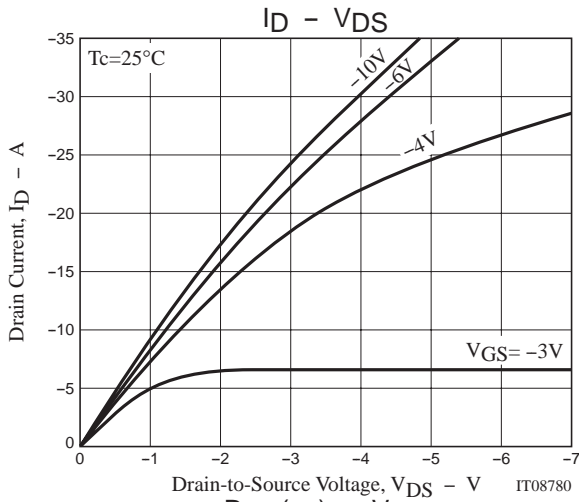


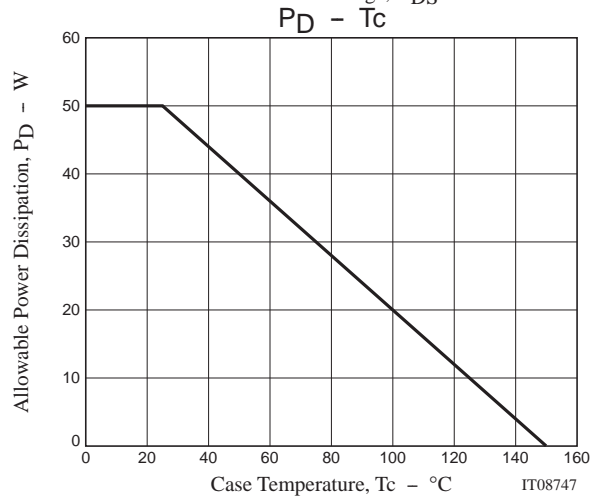
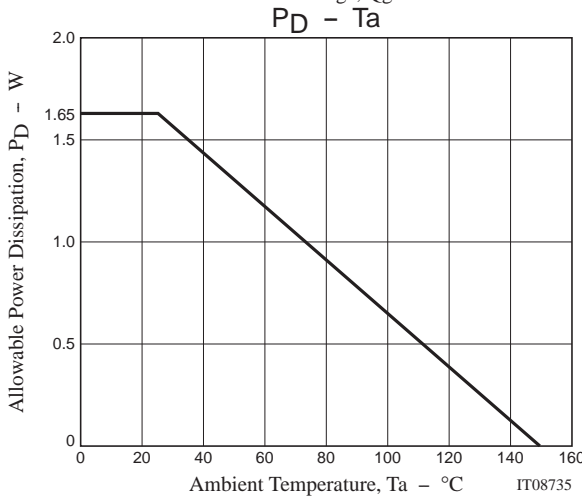
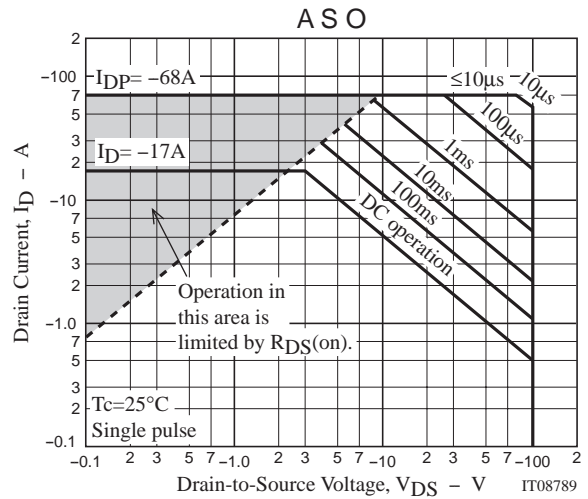
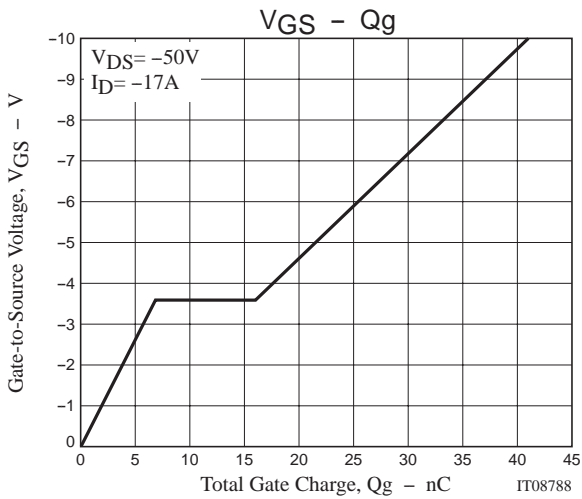
Switching Time Test Circuit



Avalanche Resistance Test Circuit







Note on usage : Since the 2SJ664 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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