Ordering number : ENN8248

SANYO Semiconductors
DATA SHEET

2SJ667 — 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 Ta=25°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		−42	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−168	A
Allowable Power Dissipation	P_D		2.5	W
		Tc=25°C	100	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *1	E_{AS}		58	mJ
Avalanche Current *2	I_{AV}		−42	A

Note : *1 V_{DD}=30V, L=50μH, I_{AV}=−42A
*2 L≤50μH, Single pulse

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	−100			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−100V, V_{GS}=0			−1	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}= ±16V, V_{DS}=0			±10	μA
Cutoff Voltage	V_{GS}(off)	V_{DS}=−10V, I_D=−1mA	−1.2		−2.6	V
Forward Transfer Admittance	|yfs|	V_{DS}=−10V, I_D=−21A	22	37		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−21A, V_{GS}=−10V		42	56	mΩ
	R_{DS}(on)2	I_D=−21A, V_{GS}=−4V		52	74	mΩ

Marking : J667

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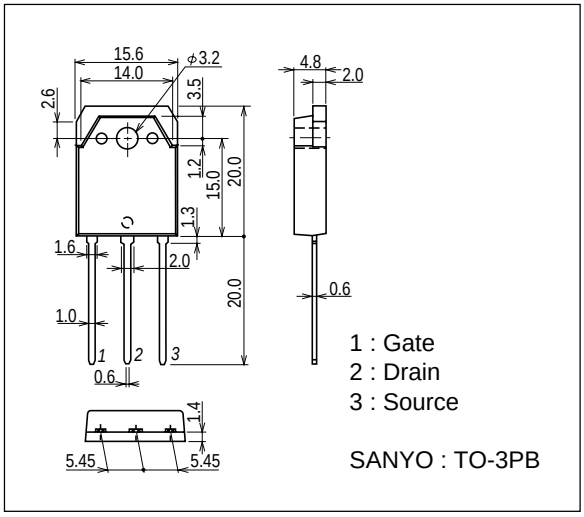
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input Capacitance	Ciss	V_{DS}=–20V, f=1MHz		6350		pF
Output Capacitance	Coss	V_{DS}=–20V, f=1MHz		430		pF
Reverse Transfer Capacitance	Crss	V_{DS}=–20V, f=1MHz		250		pF
Turn-ON Delay Time	t_{d}(on)	See specified Test Circuit.		47		ns
Rise Time	t_{r}	See specified Test Circuit.		360		ns
Turn-OFF Delay Time	t_{d}(off)	See specified Test Circuit.		480		ns
Fall Time	t_{f}	See specified Test Circuit.		220		ns
Total Gate Charge	Qg	V_{DS}=–50V, V_{GS}=–10V, I_{D}=–42A		110		nC
Gate-to-Source Charge	Qgs	V_{DS}=–50V, V_{GS}=–10V, I_{D}=–42A		20		nC
Gate-to-Drain “Miller” Charge	Qgd	V_{DS}=–50V, V_{GS}=–10V, I_{D}=–42A		20		nC
Diode Forward Voltage	V_{SD}	I_{S}=–42A, V_{GS}=0		–1.05	–1.2	V

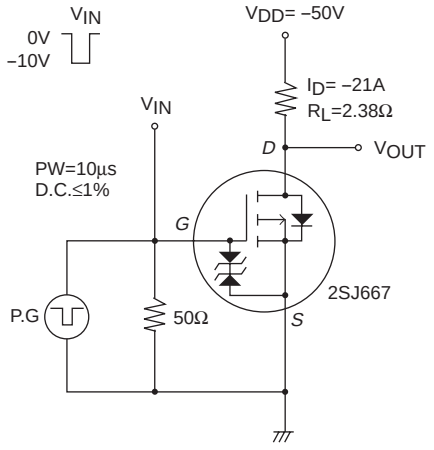
Package Dimensions

unit : mm

2056A



Switching Time Test Circuit



Avalanche Resistance Test Circuit