

Ordering number : ENN8112



SANYO Semiconductors

DATA SHEET

2SK3617 — N-Channel Silicon MOSFET

General-Purpose Switching Device Applications

Features

- Low ON-resistance.
- Ultrahigh-speed switching.
- 4V drive.

Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DS}		100	V
Gate-to-Source Voltage	V_{GS}		± 20	V
Drain Current (DC)	I_D		6	A
Drain Current (Pulse)	I_{DP}	$PW \leq 10\mu\text{s}$, duty cycle $\leq 1\%$	24	A
Allowable Power Dissipation	P_D		1	W
		$T_c=25^\circ\text{C}$	15	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	$V_{(BR)DSS}$	$I_D=1\text{mA}$, $V_{GS}=0$	100			V
Zero-Gate Voltage Drain Current	I_{DSS}	$V_{DS}=100\text{V}$, $V_{GS}=0$			1	μA
Gate-to-Source Leakage Current	I_{GSS}	$V_{GS}=\pm 16\text{V}$, $V_{DS}=0$			± 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} $	$V_{DS}=10\text{V}$, $I_D=3\text{A}$	3	5		S
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=3\text{A}$, $V_{GS}=10\text{V}$		180	225	$\text{m}\Omega$
	$R_{DS(on)2}$	$I_D=3\text{A}$, $V_{GS}=4\text{V}$		225	315	$\text{m}\Omega$
Input Capacitance	C_{iss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		530		pF
Output Capacitance	C_{oss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		45		pF
Reverse Transfer Capacitance	C_{rss}	$V_{DS}=20\text{V}$, $f=1\text{MHz}$		35		pF
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		9		ns
Rise Time	t_r	See specified Test Circuit.		5		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		54		ns
Fall Time	t_f	See specified Test Circuit.		25		ns

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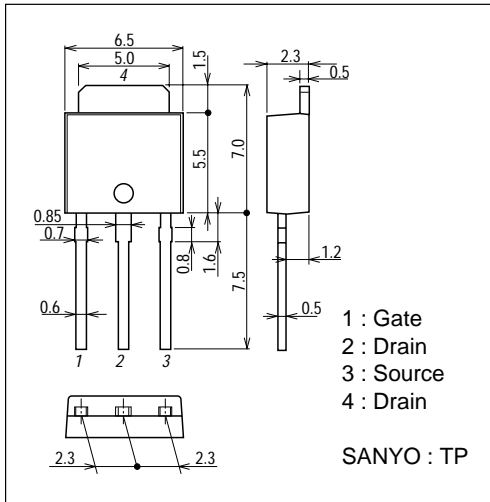
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Total Gate Charge	Qg	$V_{DS}=50V, V_{GS}=10V, I_D=6A$		13		nC
Gate-to-Source Charge	Qgs	$V_{DS}=50V, V_{GS}=10V, I_D=6A$		2.1		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=50V, V_{GS}=10V, I_D=6A$		2.8		nC
Diode Forward Voltage	V_{SD}	$I_S=6A, V_{GS}=0$	0.9		1.2	V

Package Dimensions

unit : mm

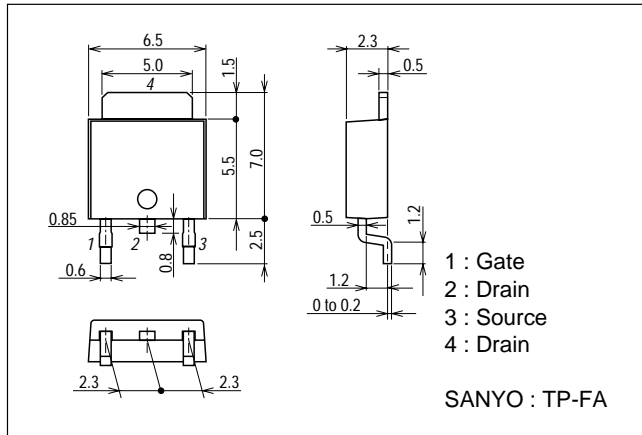
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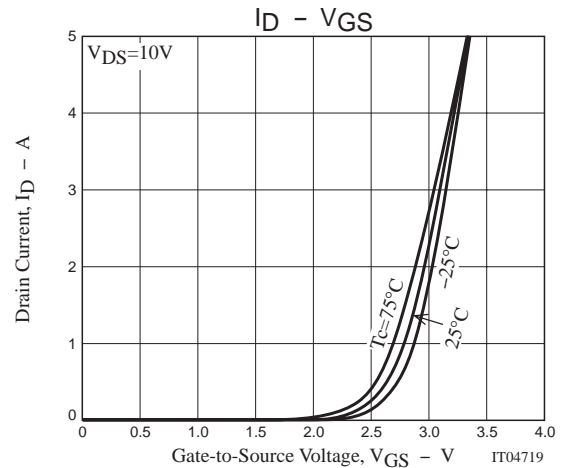
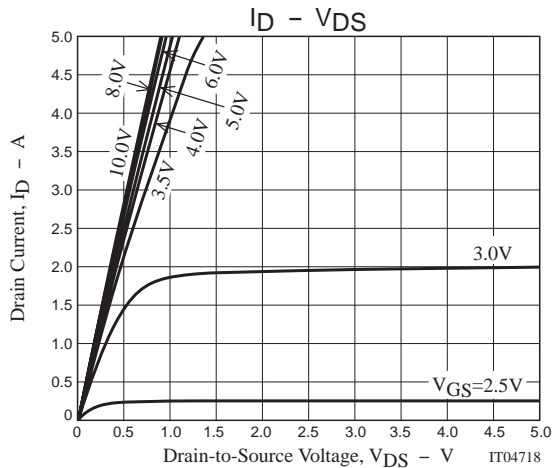
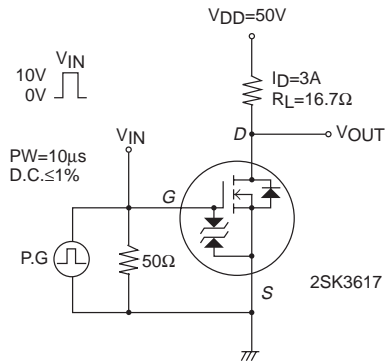
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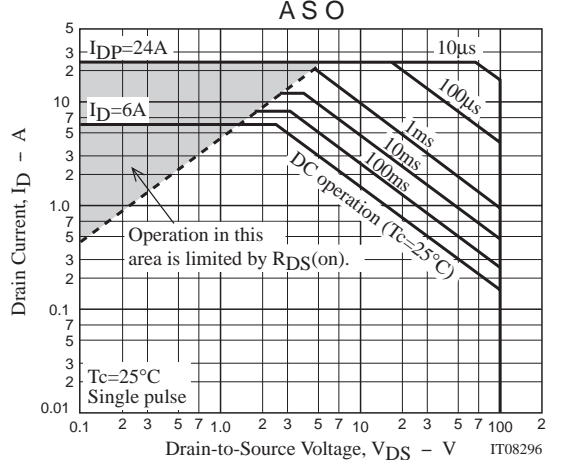
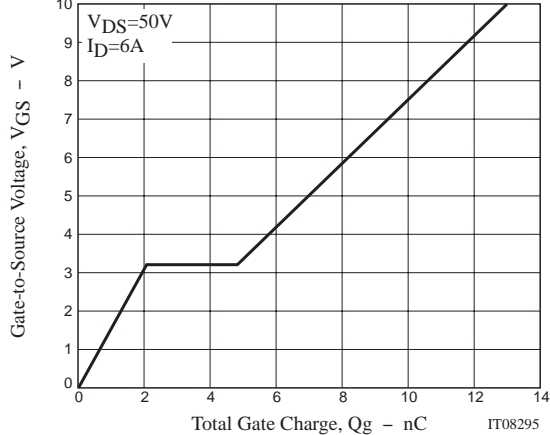
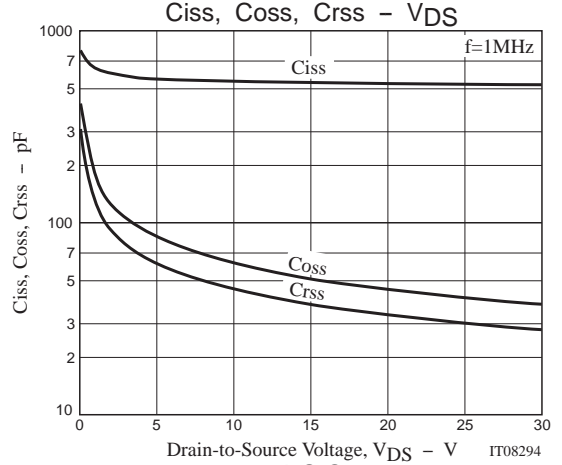
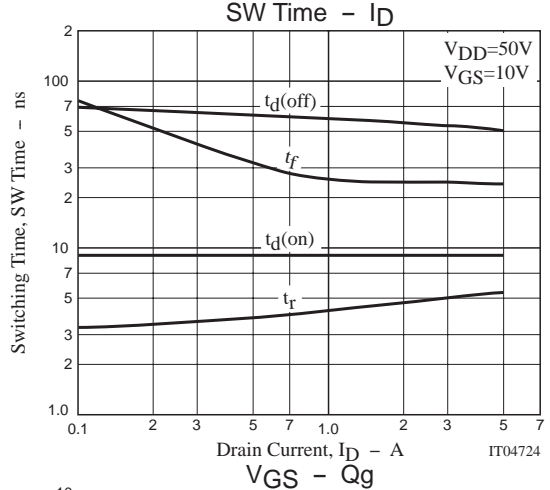
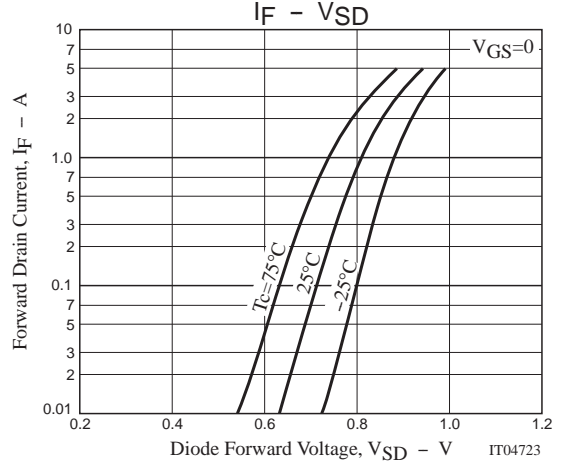
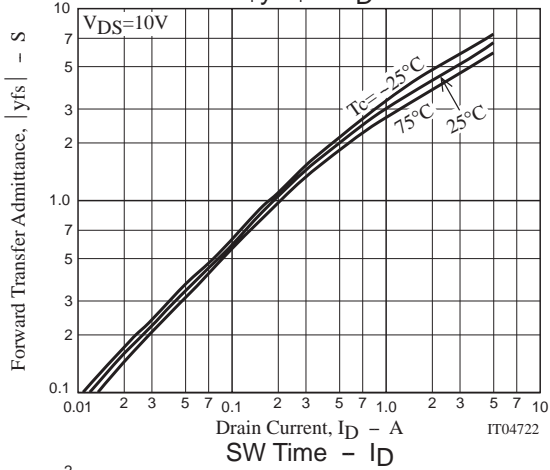
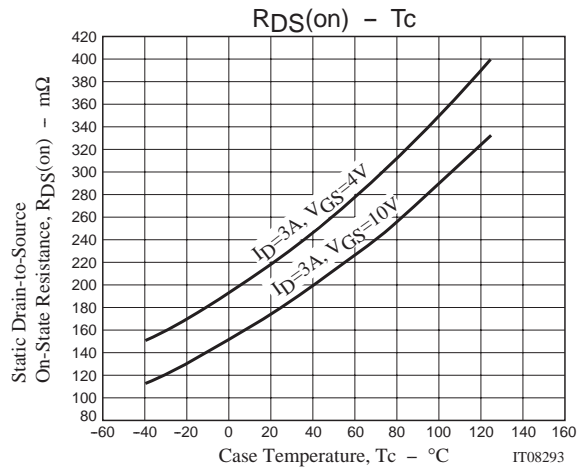
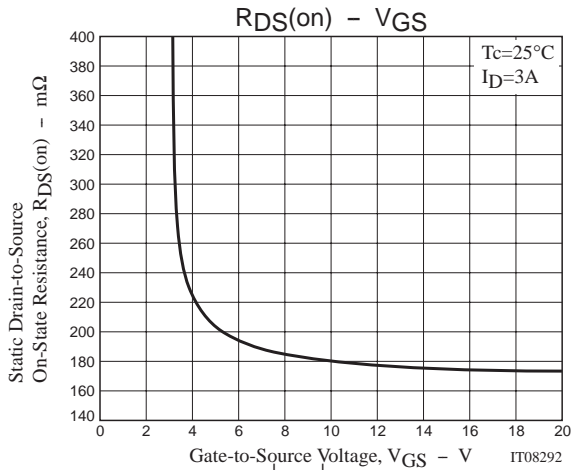
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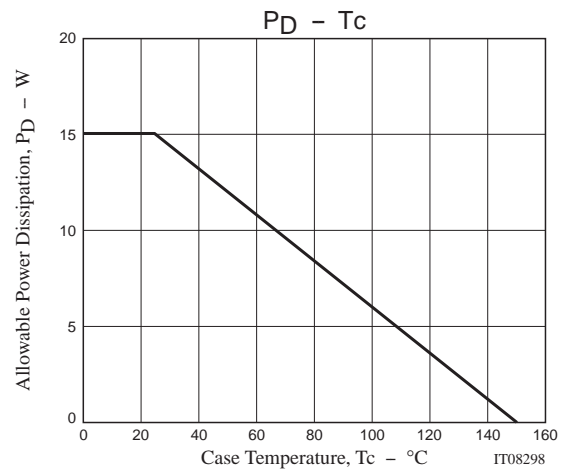
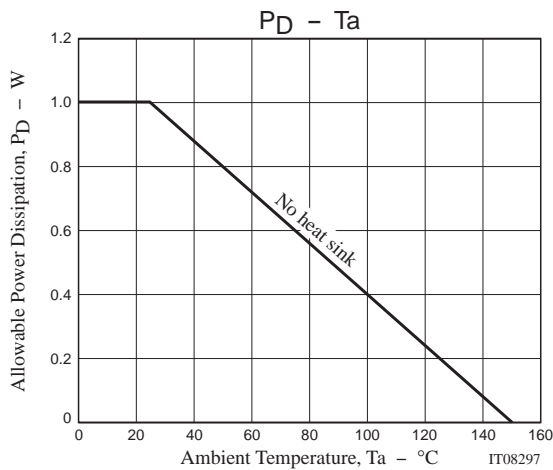


Switching Time Test Circuit





2SK3617



Note on usage : Since the 2SK3617 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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