Ordering number : ENA1907

SANYO Semiconductors

DATA SHEET

P-Channel Silicon MOSFET

BMS3003 — General-Purpose Switching Device Applications

Features

- ON-resistance $R_{DS}(on)1$=5.0mΩ (typ.)
- Input capacitance Ciss=13200pF (typ.)
- 4V drive

Specifications

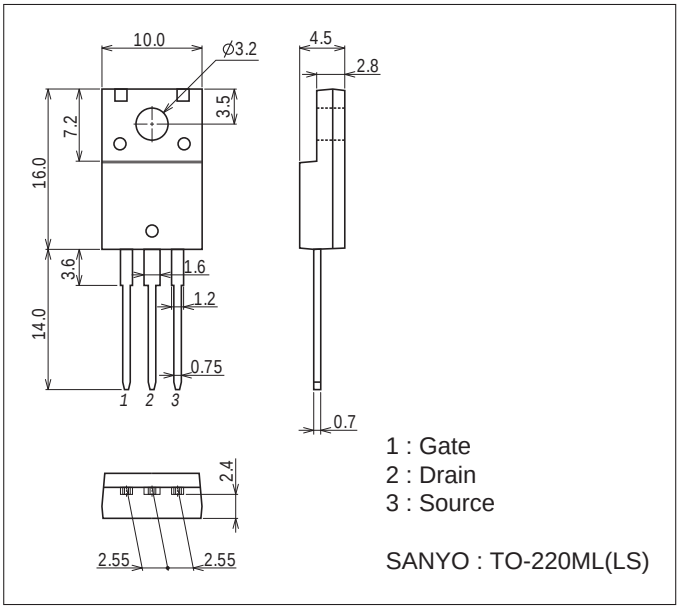
Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V_{DSS}		−60	V
Gate-to-Source Voltage	V_{GSS}		±20	V
Drain Current (DC)	I_D		−78	A
Drain Current (Pulse)	I_{DP}	PW≤10μs, duty cycle≤1%	−312	A
Allowable Power Dissipation	P_D		2.0	W
		Tc=25°C	40	W
Channel Temperature	Tch		150	°C
Storage Temperature	Tstg		−55 to +150	°C
Avalanche Energy (Single Pulse) *1	E_{AS}		420	mJ
Avalanche Current *2	I_{AV}		−60	A

Note :*1 V_{DD}=−36V, L=100μH, I_{AV}=−60A (Fig.1)
*2 L≤100μH, Single pulse

Package Dimensions

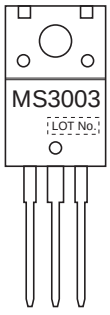
unit : mm (typ)
7525-002



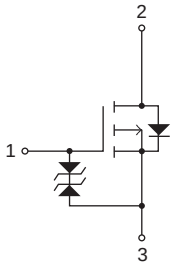
Product & Package Information

- Package : TO-220ML(LS)
- JEITA, JEDEC : SC-67, SOT-186A
- Minimum Packing Quantity : 100 pcs./bag or 50pcs./magazine

Marking



Electrical Connection



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}=0V	−60			V
Zero-Gate Voltage Drain Current	I_{DSS}	V_{DS}=−60V, V_{GS}=0V			−10	μA
Gate-to-Source Leakage Current	I_{GSS}	V_{GS}=±16V, V_{DS}=0V			±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=−39A		130		S
Static Drain-to-Source On-State Resistance	R_{DS}(on)1	I_D=−39A, V_{GS}=−10V		5.0	6.5	mΩ
	R_{DS}(on)2	I_D=−39A, V_{GS}=−4V		6.5	9.0	mΩ
Input Capacitance	Ciss	V_{DS}=−20V, f=1MHz		13200		pF
Output Capacitance	Coss			1300		pF
Reverse Transfer Capacitance	Crss			950		pF
Turn-ON Delay Time	t_d(on)	See Fig.2		90		ns
Rise Time	t_r			360		ns
Turn-OFF Delay Time	t_d(off)			1200		ns
Fall Time	t_f			680		ns
Total Gate Charge	Qg	V_{DS}=−36V, V_{GS}=−10V, I_D=−78A		285		nC
Gate-to-Source Charge	Qgs			35		nC
Gate-to-Drain “Miller” Charge	Qgd			70		nC
Diode Forward Voltage	V_{SD}	I_S=−78A, V_{GS}=0V		−0.95	−1.5	V
Reverse Recovery Time	t_{rr}	See Fig.3		150		ns
Reverse Recovery Charge	Q_{rr}	I_S=−78A, V_{GS}=0V, di/dt=−100A/μs		470		nC

Fig.1 Avalanche Resistance Test Circuit

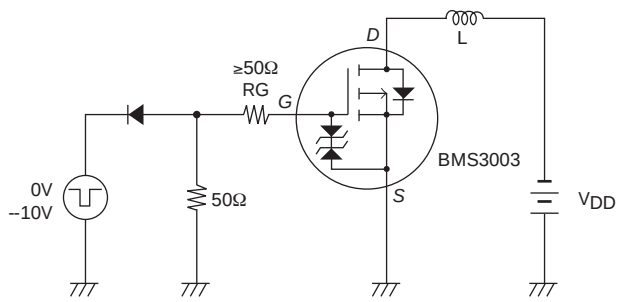


Fig.2 Switching Time Test Circuit

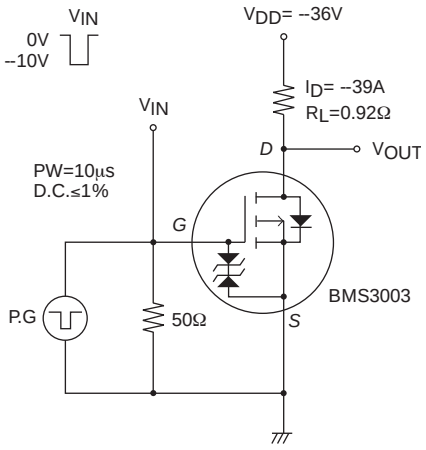
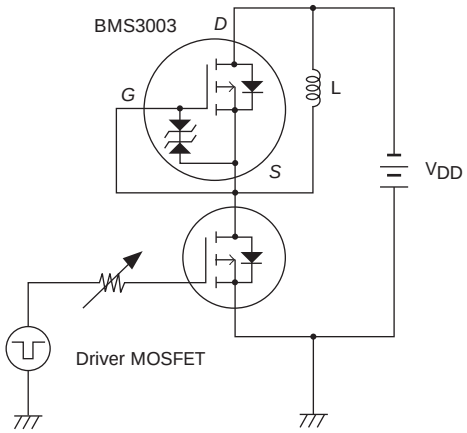
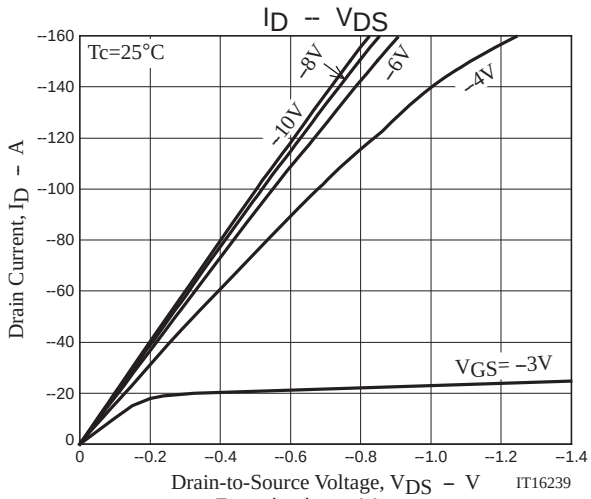
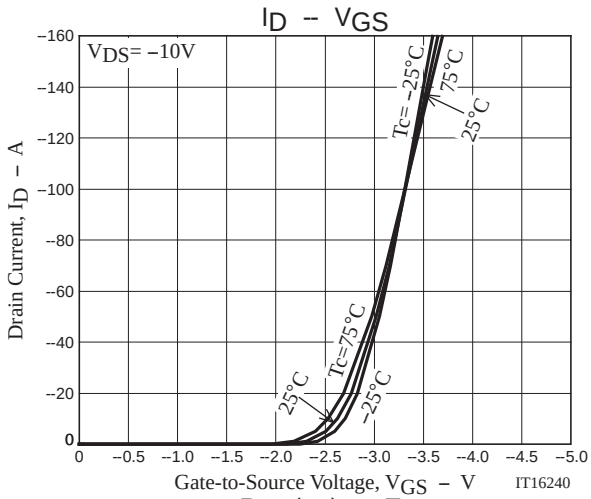
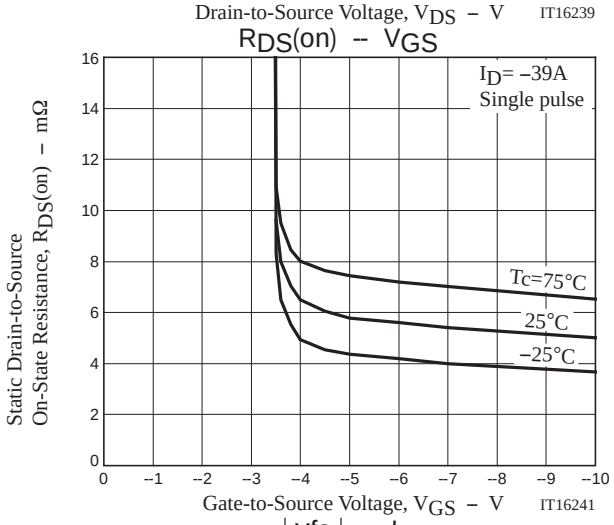


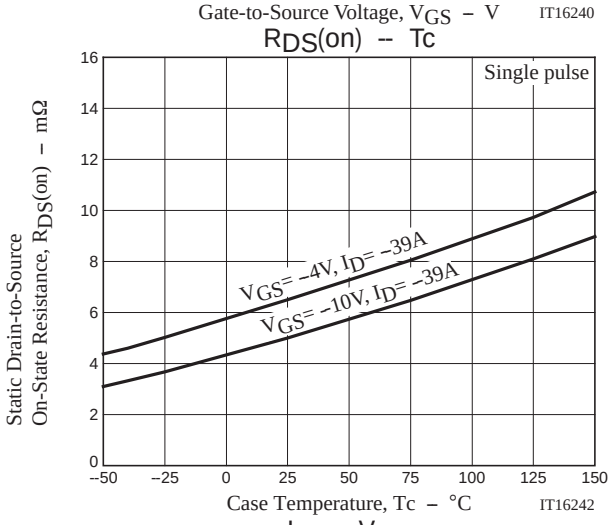
Fig.3 Reverse Recovery Time Test Circuit

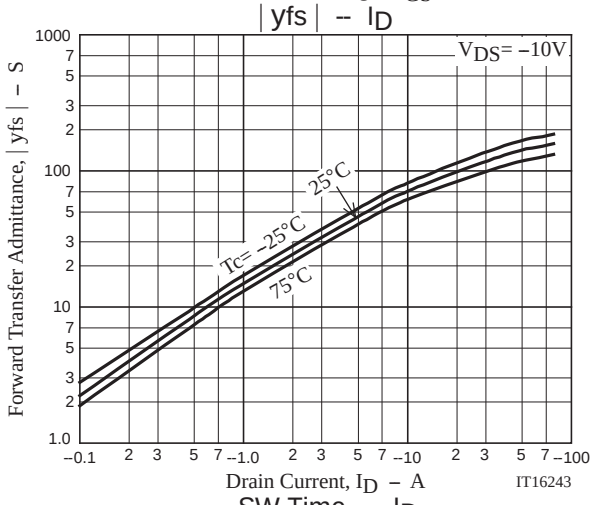


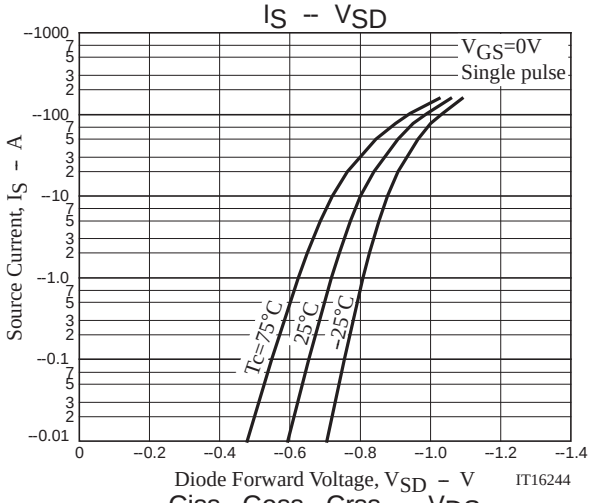


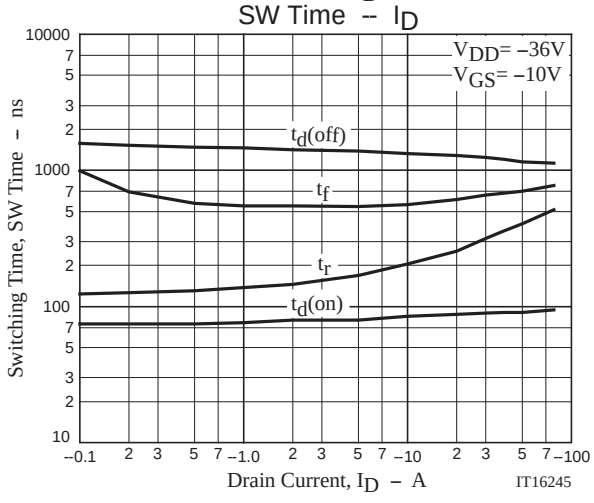


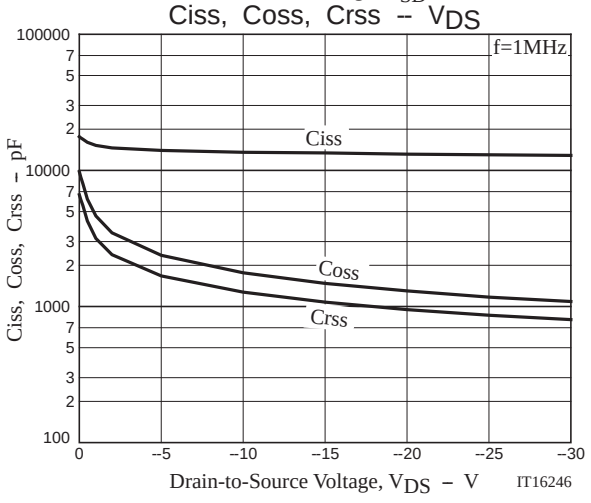


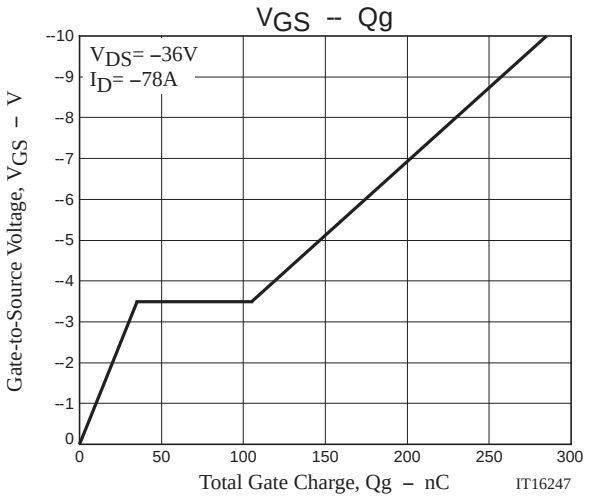


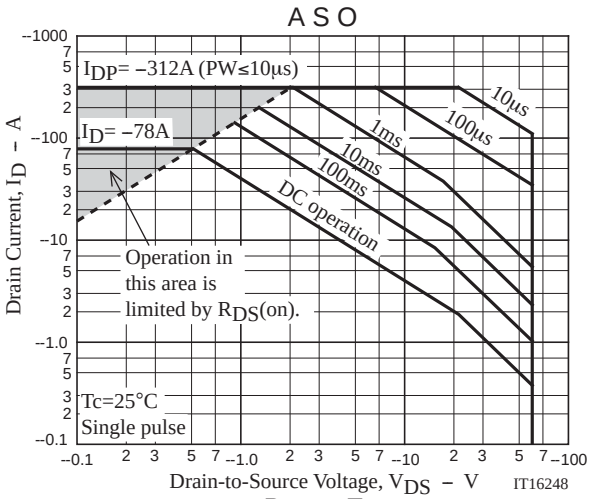


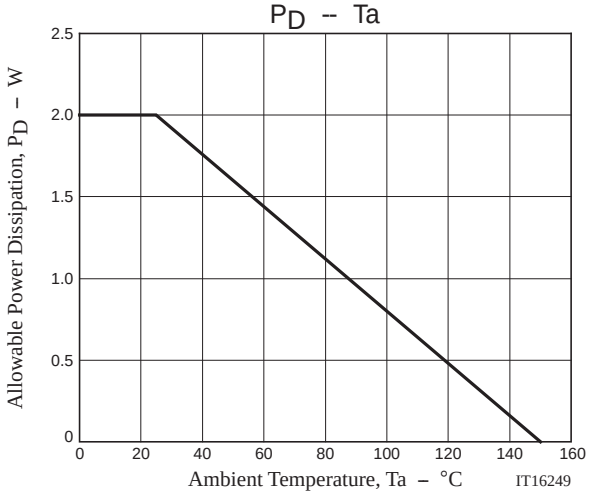


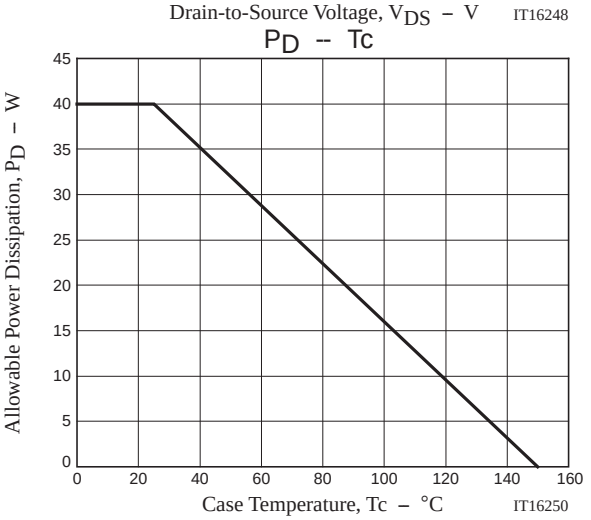


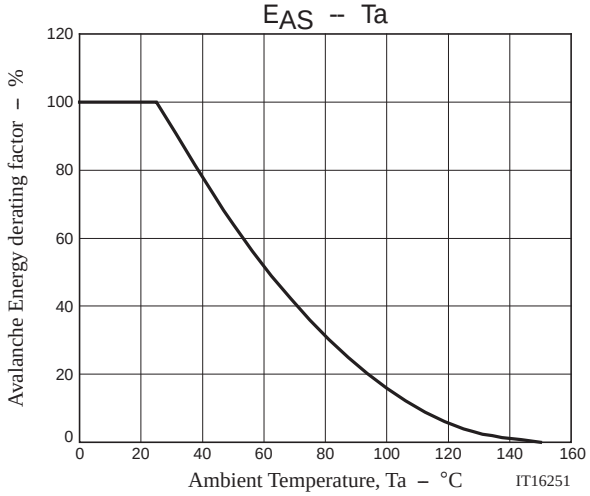












Note on usage : Since the BMS3003 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

This catalog provides information as of December, 2010. Specifications and information herein are subject to change without notice.