

Ordering number : ENA0519



SANYO Semiconductors

DATA SHEET

2SJ538 — P-Channel Silicon MOSFET Load Switching Applications

Features

- Low ON-resistance.
- 4V drive.

Specifications

Absolute Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V _{DSS}		-30	V
Gate-to-Source Voltage	V _{GSS}		±20	V
Drain Current (DC)	I _D		-15	A
Drain Current (Pulse)	I _{DP}	PW≤10μs, duty cycle≤1%	-45	A
Allowable Power Dissipation	P _D		1.0	W
		Tc=25°C	30	W
Channel Temperature	T _{ch}		150	°C
Storage Temperature	T _{stg}		-55 to +150	°C

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	-30			V
Zero-Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-100	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 =-8mA	-1.0		-2.5	V
Forward Transfer Admittance	y _{fs}	V _{DS} =-10V, I _D =-8A	10	15		S
Static Drain-to-Source On-State Resistance	R _{DS(on)1}	I _D =-8A, V _{GS} =-10V		24	30	mΩ
	R _{DS(on)2}	I _D =-4A, V _{GS} =-4V		40	52	mΩ
Input Capacitance	C _{iss}	V _{DS} =-10V, f=1MHz		2000		pF
Output Capacitance	C _{oss}	V _{DS} =-10V, f=1MHz		1000		pF
Reverse Transfer Capacitance	C _{rss}	V _{DS} =-10V, f=1MHz		470		pF

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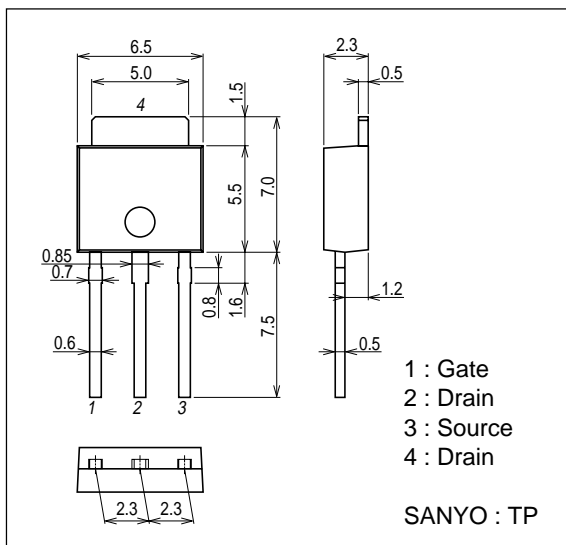
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Turn-ON Delay Time	$t_d(\text{on})$	See specified Test Circuit.		20		ns
Rise Time	t_r	See specified Test Circuit.		70		ns
Turn-OFF Delay Time	$t_d(\text{off})$	See specified Test Circuit.		210		ns
Fall Time	t_f	See specified Test Circuit.		140		ns
Total Gate Charge	Qg	$V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$		58		nC
Gate-to-Source Charge	Qgs	$V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$		7		nC
Gate-to-Drain "Miller" Charge	Qgd	$V_{DS}=-10V, V_{GS}=-10V, I_D=-8A$		17		nC
Diode Forward Voltage	V_{SD}	$I_S=-8A, V_{GS}=0V$		-1.0	-1.5	V

Package Dimensions

unit : mm (typ)

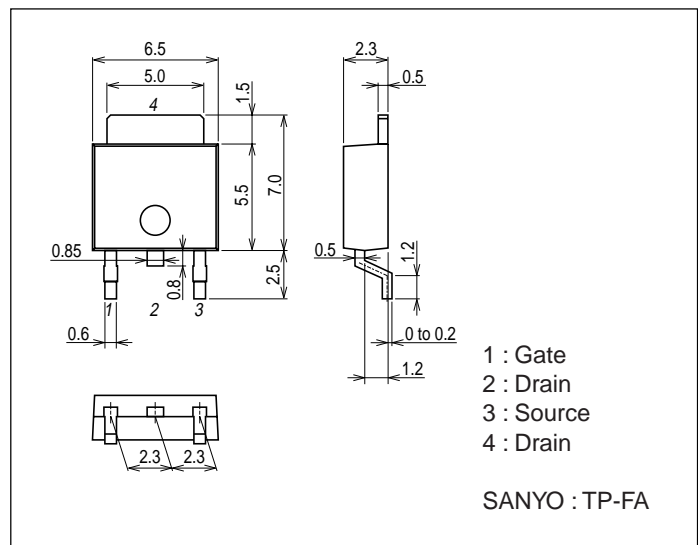
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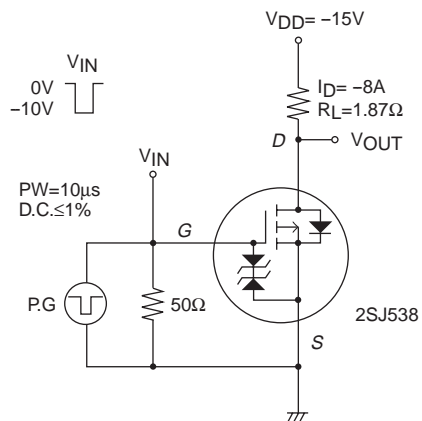
Package Dimensions

unit : mm (typ)

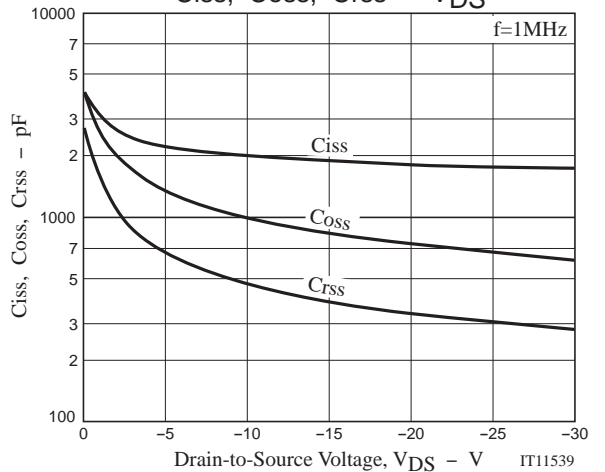
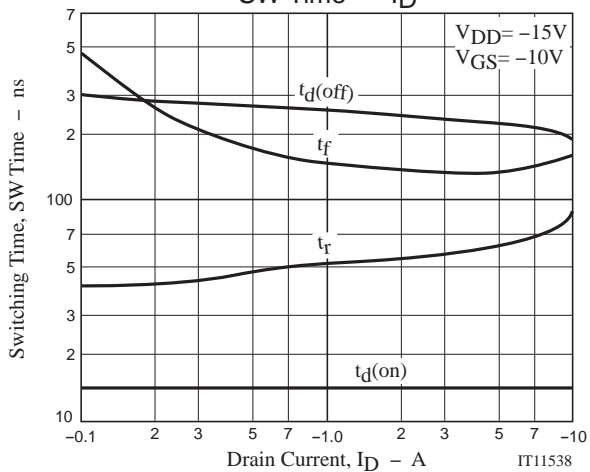
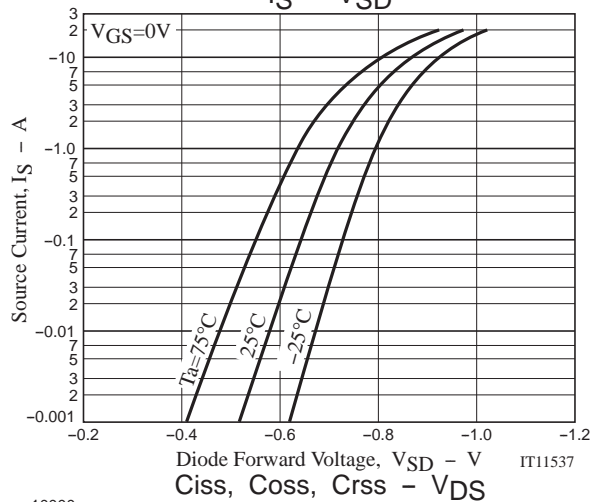
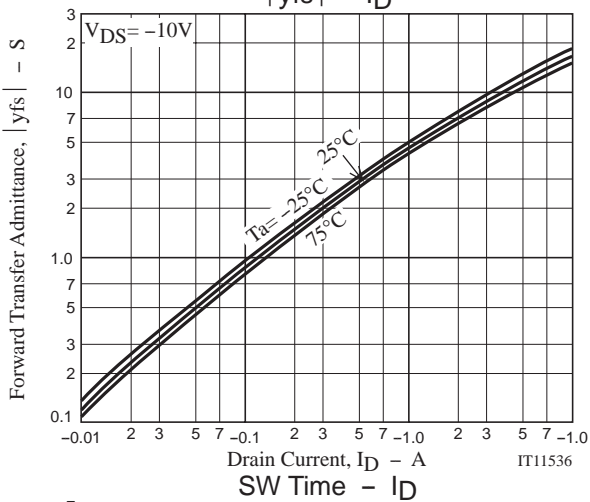
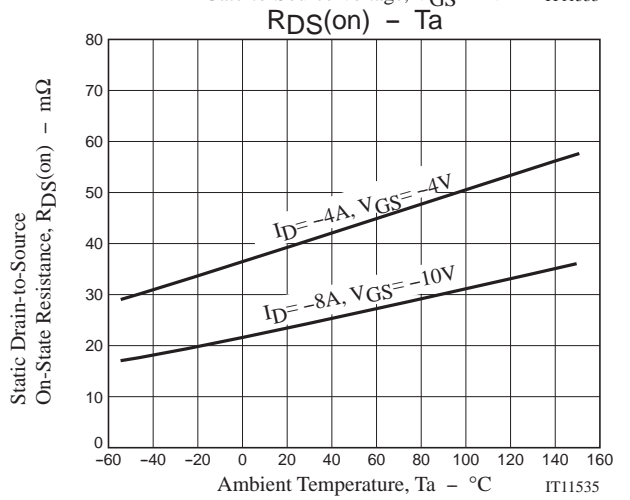
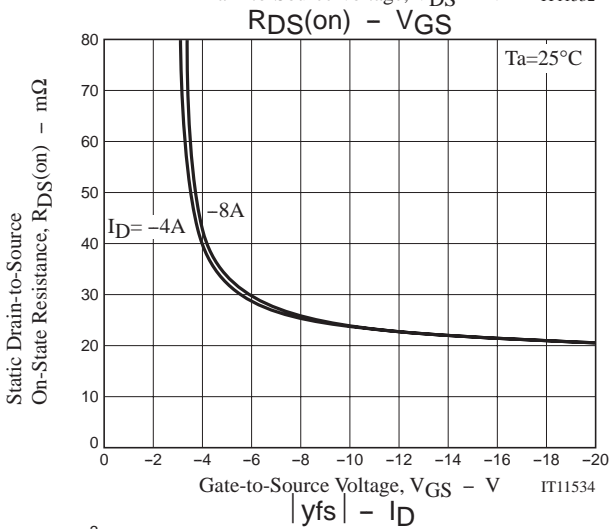
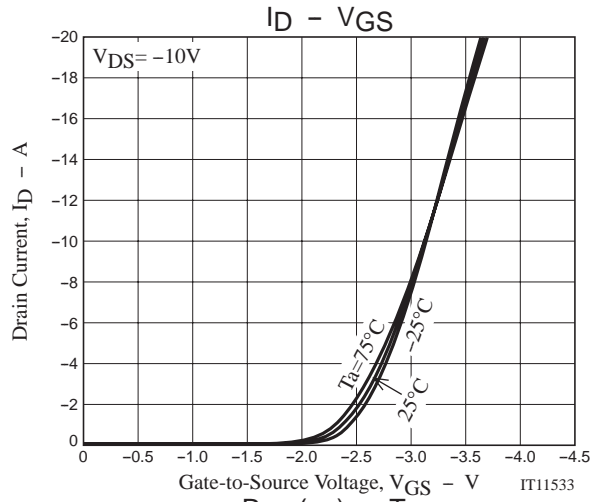
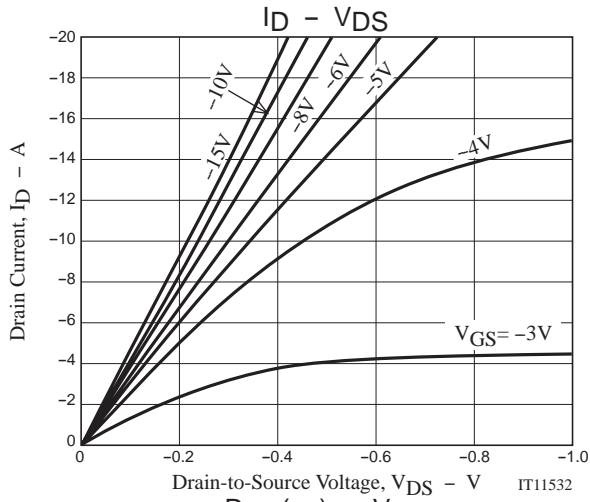
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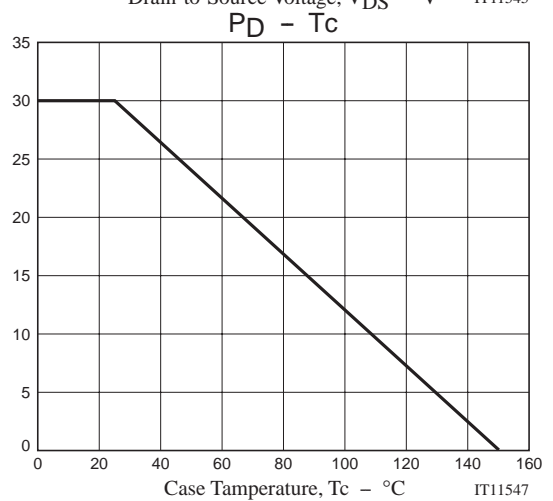
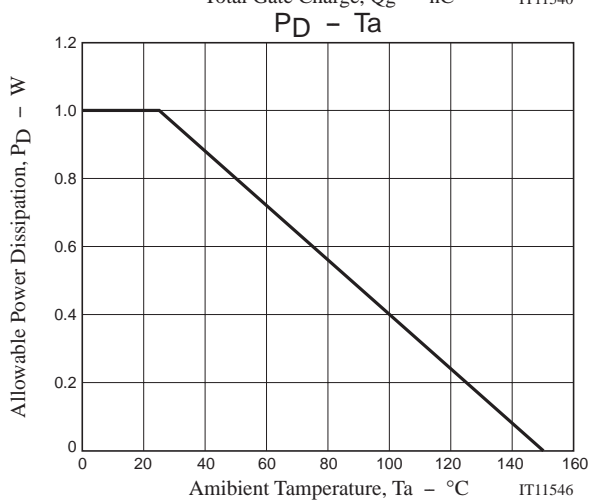
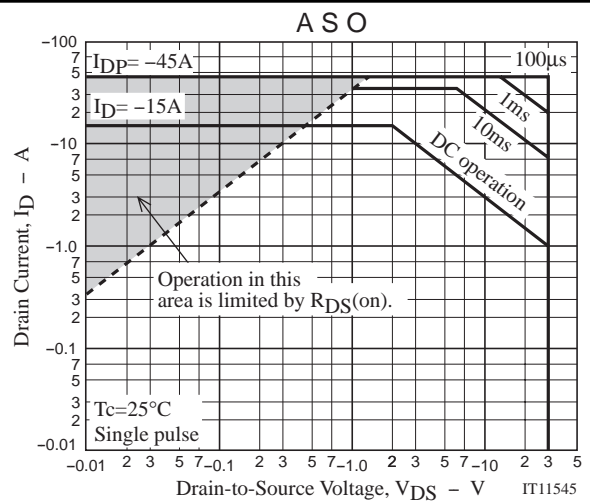
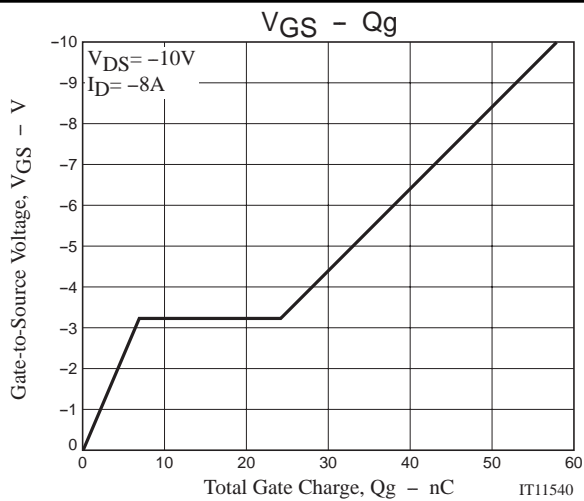
Switching Time Test Circuit



2SJ538



2SJ538



Note on usage : Since the 2SJ538 is a MOSFET product, please avoid using this device in the vicinity of highly charged objects.

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