



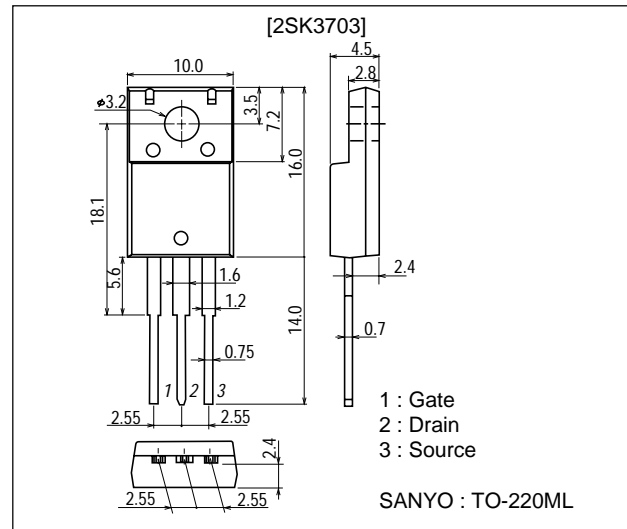
## General-Purpose Switching Device Applications

### Features

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

### Package Dimensions

unit : mm  
2063A



### Specifications

**Absolute Maximum Ratings** at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Drain-to-Source Voltage	V <sub>DSS</sub>		60	V
Gate-to-Source Voltage	V <sub>GSS</sub>		±20	V
Drain Current (DC)	I <sub>D</sub>		30	A
Drain Current (Pulse)	I <sub>DP</sub>	PW≤10μs, duty cycle≤1%	120	A
Allowable Power Dissipation	P <sub>D</sub>		2.0	W
		T <sub>c</sub> =25°C	25	W
Channel Temperature	T <sub>ch</sub>		150	°C
Storage Temperature	T <sub>stg</sub>		-55 to +150	°C

### Electrical Characteristics

 at Ta=25°C

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Drain-to-Source Breakdown Voltage	V <sub>(BR)DSS</sub>	I <sub>D</sub> =1mA, V <sub>GS</sub> =0	60			V
Zero-Gate Voltage Drain Current	I <sub>DSS</sub>	V <sub>DS</sub> =60V, V <sub>GS</sub> =0			1	μA
Gate-to-Source Leakage Current	I <sub>GSS</sub>	V <sub>GS</sub> = ±16V, V <sub>DS</sub> =0			±10	μA
Cutoff Voltage	V <sub>GS(off)</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =1mA	1.2		2.6	V
Forward Transfer Admittance	y <sub>fs</sub>	V <sub>DS</sub> =10V, I <sub>D</sub> =15A	13	22		S

Marking : K3703

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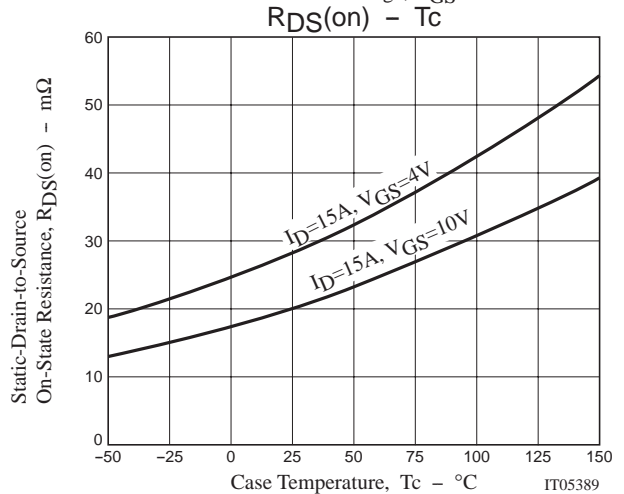
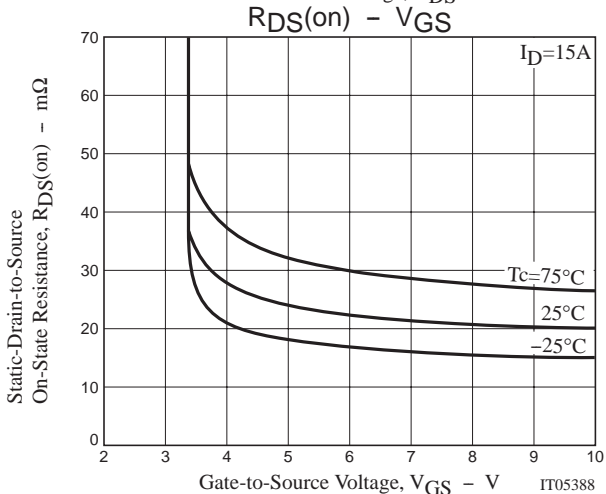
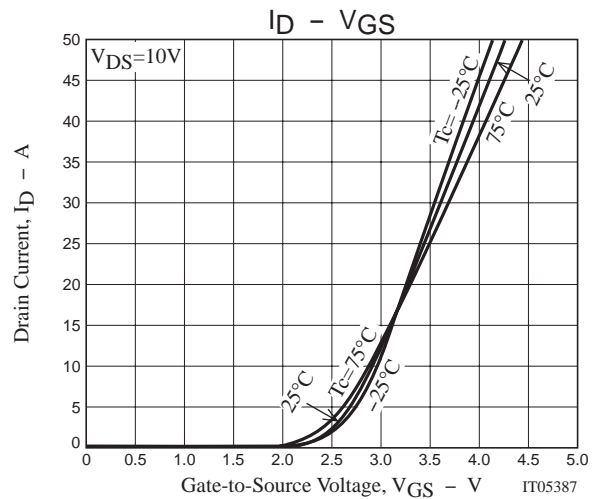
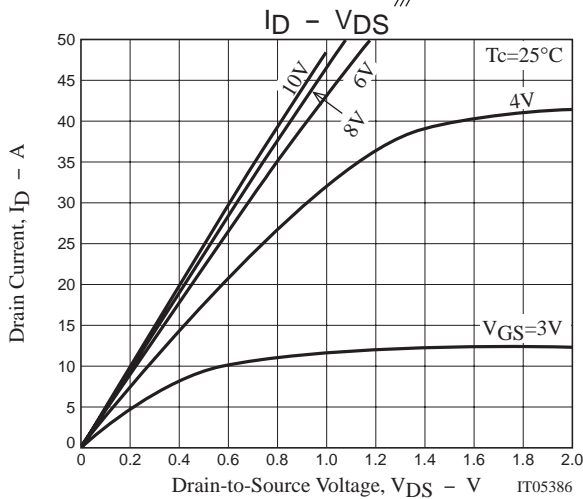
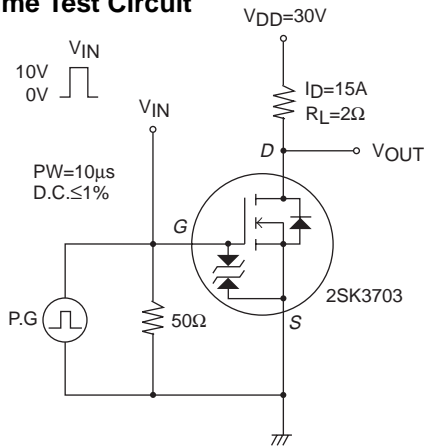
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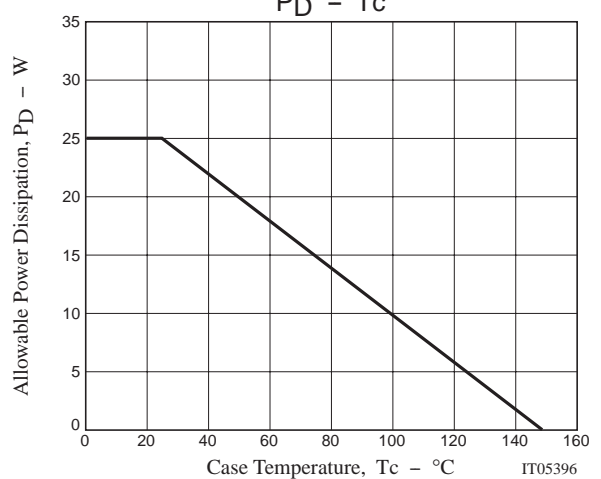
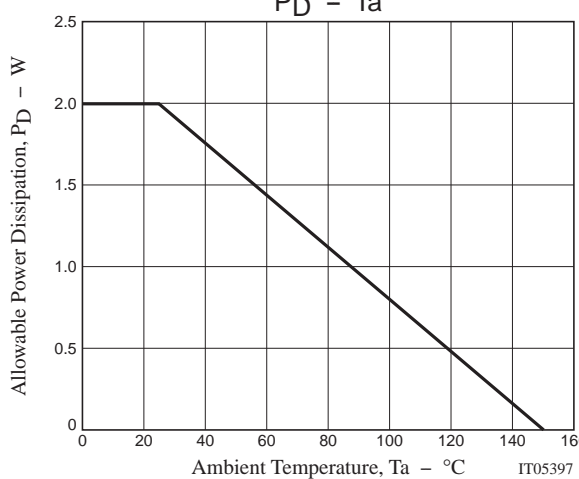
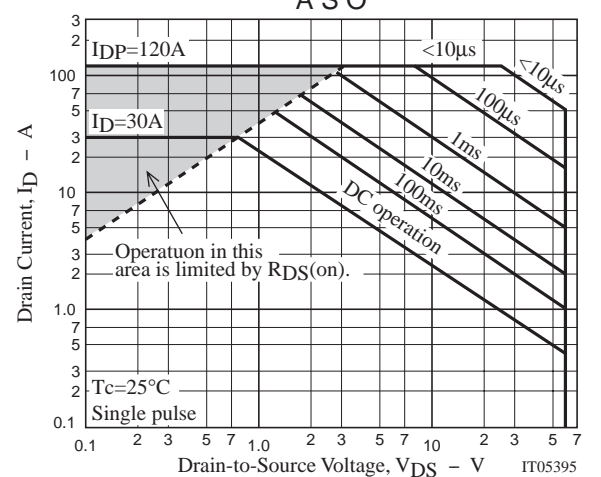
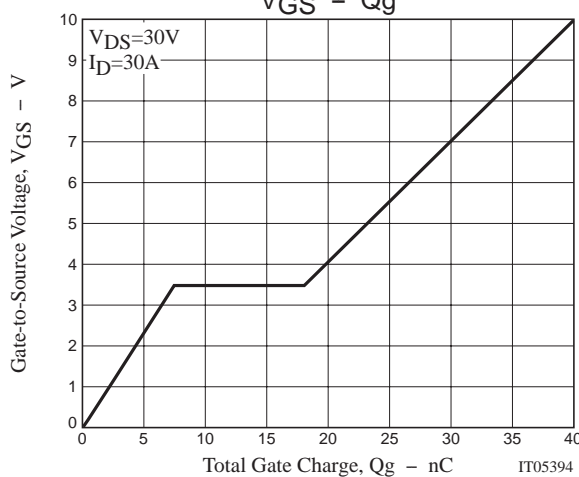
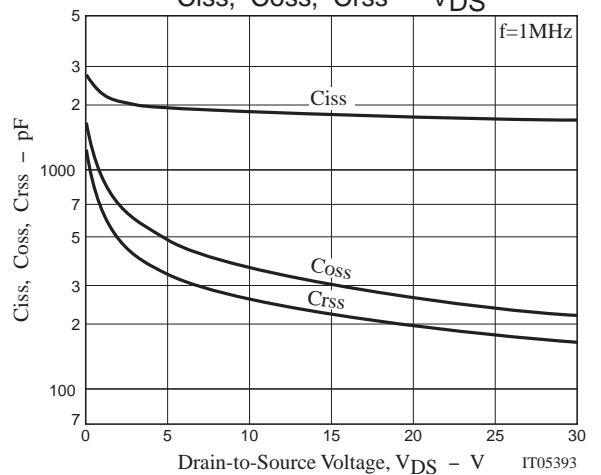
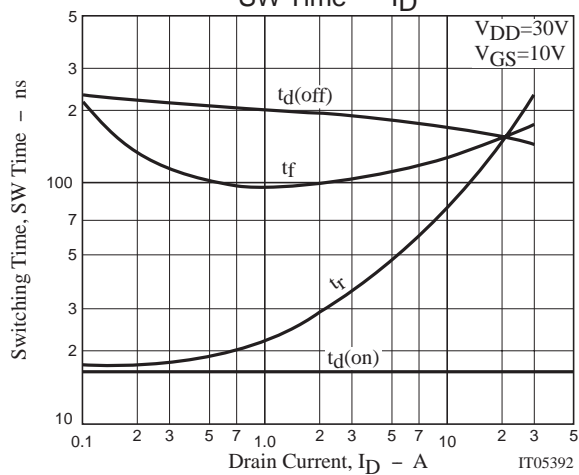
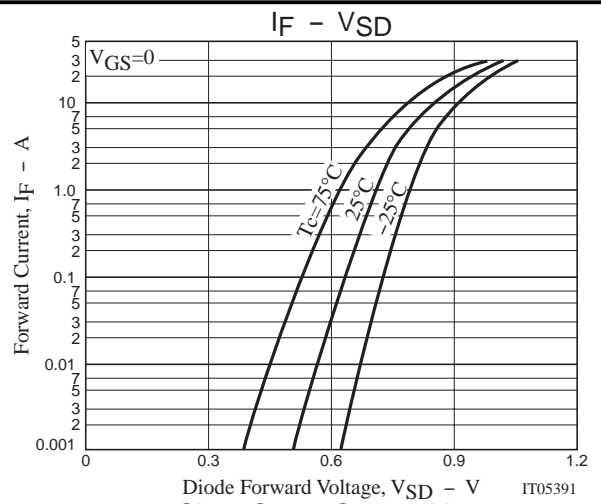
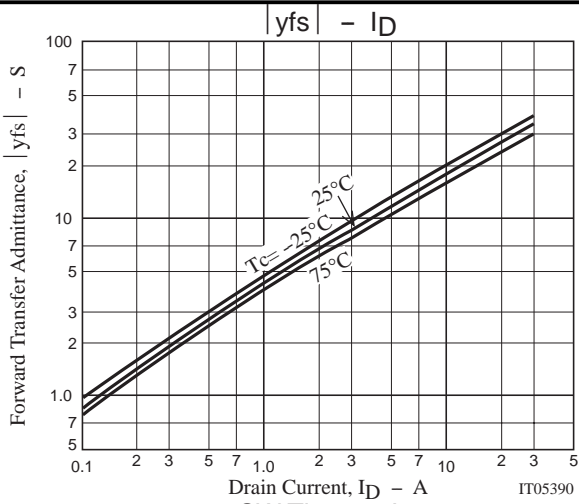
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Static Drain-to-Source On-State Resistance	$R_{DS(on)1}$	$I_D=15A, V_{GS}=10V$		20	26	$m\Omega$
	$R_{DS(on)2}$	$I_D=15A, V_{GS}=4V$		28	40	$m\Omega$
Input Capacitance	$C_{iss}$	$V_{DS}=20V, f=1MHz$		1780		$pF$
Output Capacitance	$C_{oss}$	$V_{DS}=20V, f=1MHz$		266		$pF$
Reverse Transfer Capacitance	$C_{rss}$	$V_{DS}=20V, f=1MHz$		197		$pF$
Turn-ON Delay Time	$t_d(on)$	See specified Test Circuit.		16.5		ns
Rise Time	$t_r$	See specified Test Circuit.		110		ns
Turn-OFF Delay Time	$t_d(off)$	See specified Test Circuit.		166		ns
Fall Time	$t_f$	See specified Test Circuit.		144		ns
Total Gate Charge	$Q_g$	$V_{DS}=30V, V_{GS}=10V, I_D=30A$		40		nC
Gate-to-Source Charge	$Q_{gs}$	$V_{DS}=30V, V_{GS}=10V, I_D=30A$		6.5		nC
Gate-to-Drain "Miller" Charge	$Q_{gd}$	$V_{DS}=30V, V_{GS}=10V, I_D=30A$		11.5		nC
Diode Forward Voltage	$V_{SD}$	$I_S=30A, V_{GS}=0$		1.0	1.2	V

## Switching Time Test Circuit



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