

N-channel MOS-FET			
30V	4mΩ	±100A	150W

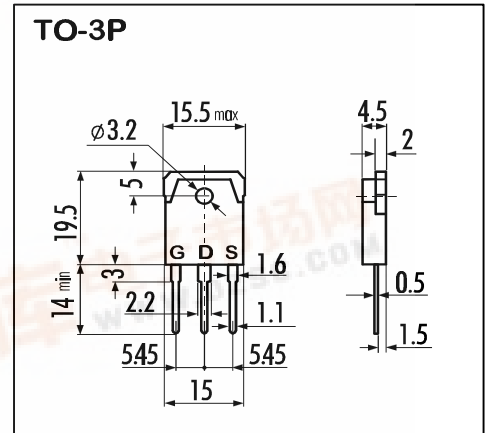
> **Features**

- High Current
- Low On-Resistance
- No Secondary Breakdown
- Low Driving Power
- Avalanche Rated

> **Applications**

- Motor Control
- General Purpose Power Amplifier
- DC-DC converters

> **Outline Drawing**

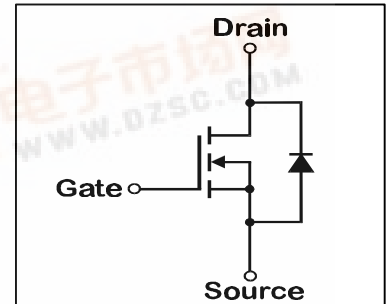


> **Maximum Ratings and Characteristics**

- Absolute Maximum Ratings (T_C=25°C), unless otherwise specified

Item	Symbol	Characteristics	Unit
Drain-Source-Voltage	V _{DS}	30	V
Continous Drain Current	I _D	±100	A
Pulsed Drain Current	I _{D(puls)}	±400	A
Gate-Source-Voltage	V _{GS}	±16	V
Maximum Avalanche Energy	E _{AV}	2536.7	mJ*
Max. Power Dissipation	P _D	150	W
Operating and Storage Temperature Range	T _{ch}	150	°C
	T _{stg}	-55 ~ +150	°C

L=0.338mH, V_{CC}=12V



- Electrical Characteristics (T_C=25°C), unless otherwise specified

Item	Symbol	Test conditions	Min.	Typ.	Max.	Unit
Drain-Source Breakdown-Voltage	BV _{DSS}	I _D =1mA V _{GS} =0V	30			V
Gate Threshold Voltage	V _{GS(th)}	I _D =1mA V _{DS} =V _{GS}	1,0	1,5	2,0	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =30V T _{ch} =25°C		10	500	μA
		V _{GS} =0V T _{ch} =125°C		0,2	1,0	mA
Gate Source Leakage Current	I _{DSS}	V _{GS} =±16V V _{DS} =0V		10	100	nA
Drain Source On-State Resistance	R _{DS(on)}	I _D =50A V _{GS} =4V		4,8	7,0	
		I _D =50A V _{GS} =10V		3,2	4,0	mΩ
Forward Transconductance	g _{fs}	I _D =50A V _{DS} =25V	45	90		S
Input Capacitance	C _{iss}	V _{DS} =25V		6600	9900	pF
Output Capacitance	C _{oss}	V _{GS} =0V		3300	4950	pF
Reverse Transfer Capacitance	C _{rss}	f=1MHz		1400	2100	pF
Turn-On-Time t _{on} (t _{on} =t _{d(on)} +t _r)	t _{d(on)}	V _{CC} =15V		20	30	ns
		V _{GS} =10V		150	230	ns
Turn-Off-Time t _{off} (t _{off} =t _{d(off)} +t _f)	t _{d(off)}	I _D =100A		470	710	ns
		R _{GS} =10 Ω		370	560	ns
Avalanche Capability	I _{AV}	L = 100μH T _{ch} =25°C	100			A
Diode Forward On-Voltage	V _{SD}	I _F =100A V _{GS} =0V T _{ch} =25°C		1,0	1,5	V
Reverse Recovery Time	t _{rr}	I _F =50A V _{GS} =0V		95		ns
Reverse Recovery Charge	Q _{rr}	-di/dt=100A/μs T _{ch} =25°C		0.22		μC

- Thermal Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance	R _{th(ch-c)}			0,83	°C/W
	R _{th(ch-a)}			35,00	°C/W

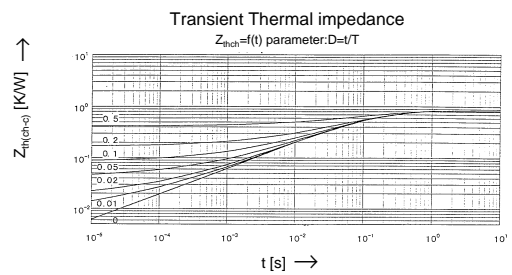
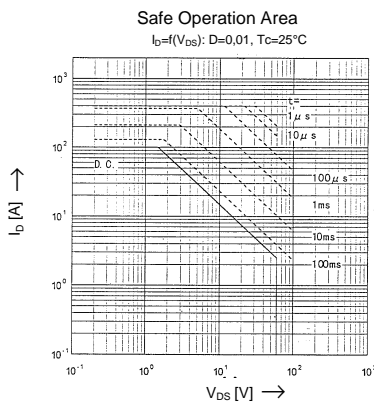
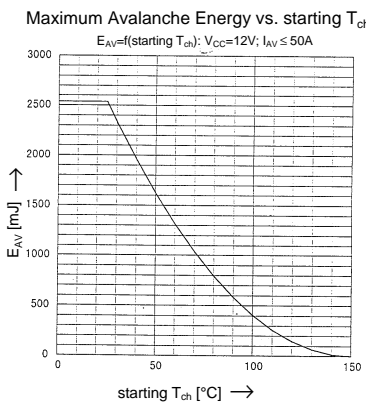
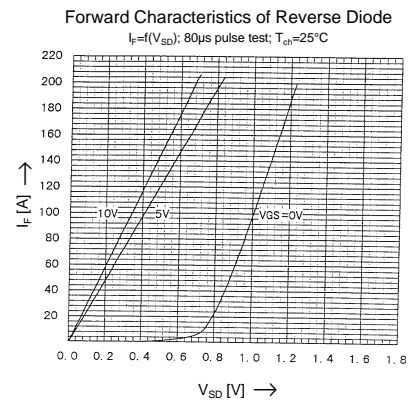
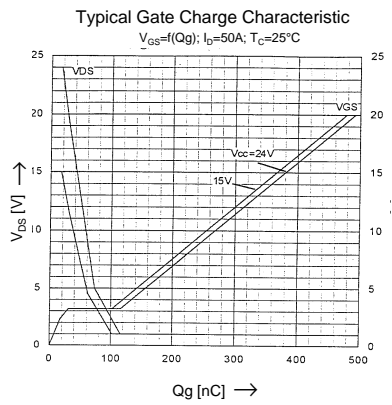
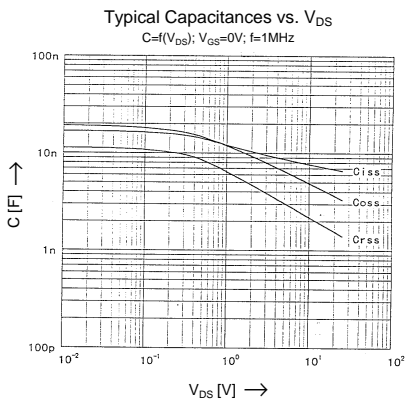
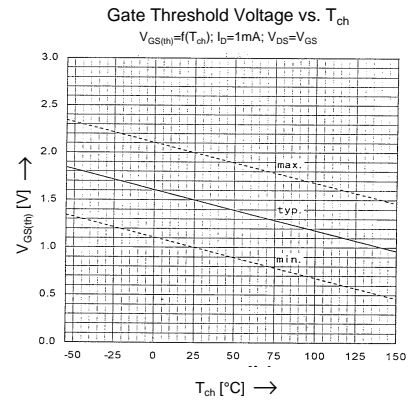
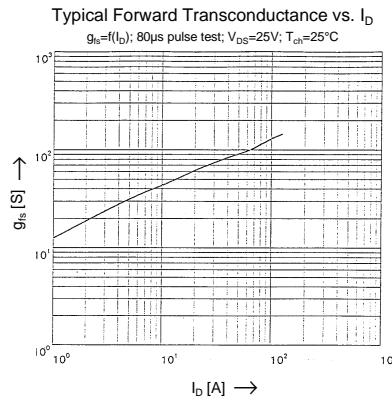
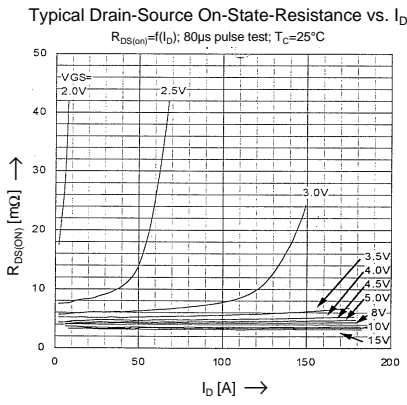
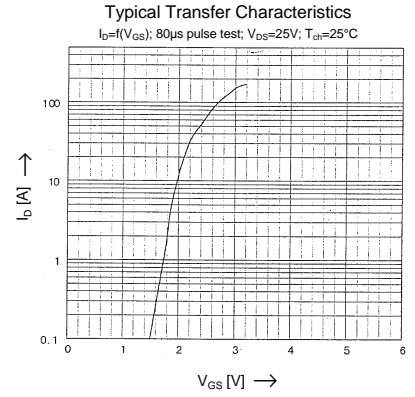
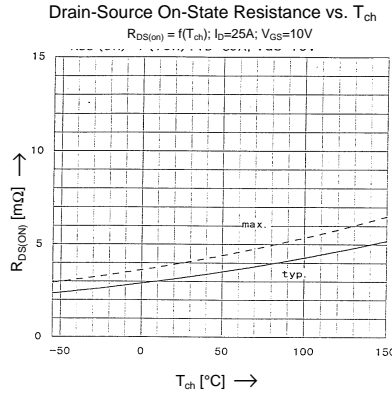
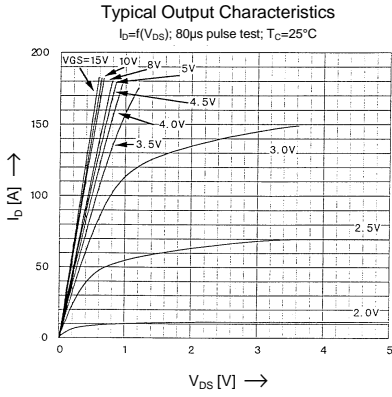
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2SK2893-01

FAP-III B Series



> Characteristics



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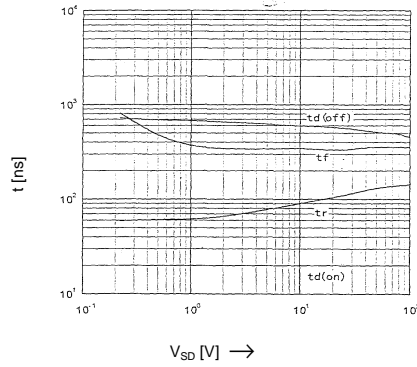
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FAP-III B Series



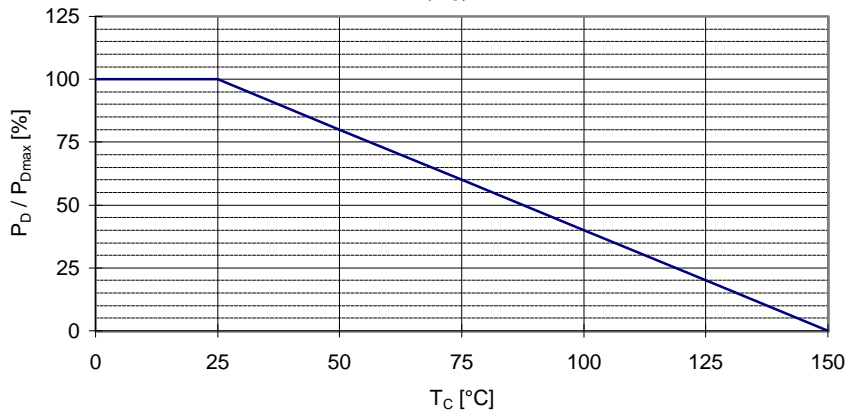
> Characteristics

Typical Switching Characteristics
 $t=f(I_D): V_{CC} = 15V, V_{GS} = 10V, R_G = 10\Omega$



Power Dissipation

$$P_D = f(T_C)$$



Maximum Avalanche Current vs. starting T_{ch}

$$I_{AV} = f(\text{starting } T_{ch})$$

