

P-Channel Enhancement MOSFET

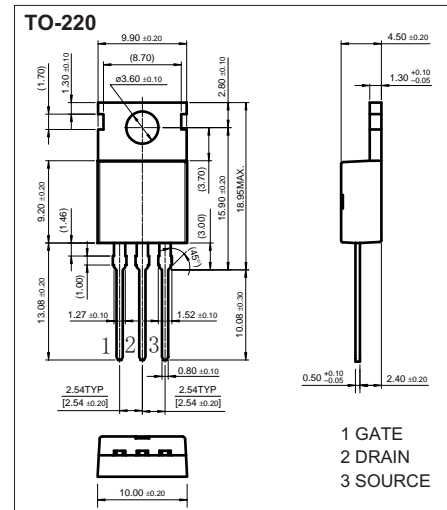
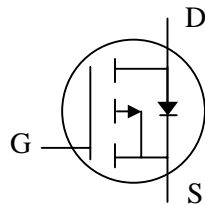
40P03

Features

$V_{DS} (V) = -30V, I_D = -30 A$

$R_{DS(ON)} < 28m \quad (V_{GS} = -10V)$

$R_{DS(ON)} < 50m \quad (V_{GS} = -4.5V)$



Absolute Maximum Ratings $T_a = 25$

Parameter	Symbol	Rating	Unit	
Drain-Source Voltage	V_{DS}	-30	V	
Gate-Source Voltage	V_{GS}	± 20		
Continuous Drain Current	I_D	$T_C=25$	-30	A
		$T_C=100$	-18	
Pulsed Drain Current	I_{DM}	-120		
Power Dissipation	P_D	31.3	W	
Thermal Resistance Junction- to-Ambient	R_{thJA}	110	/W	
Thermal Resistance Junction- to-Case	R_{thc}	4		
Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150		

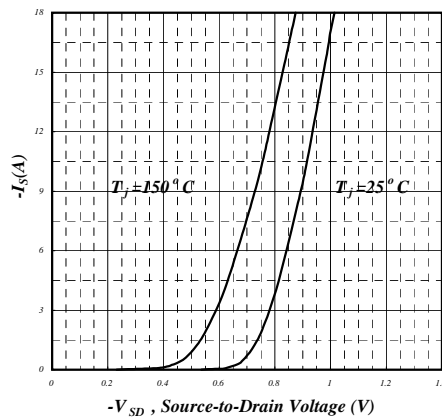
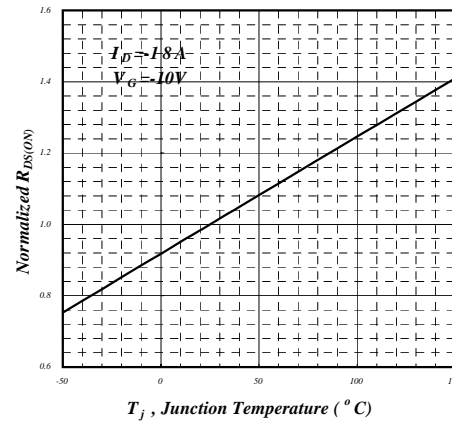
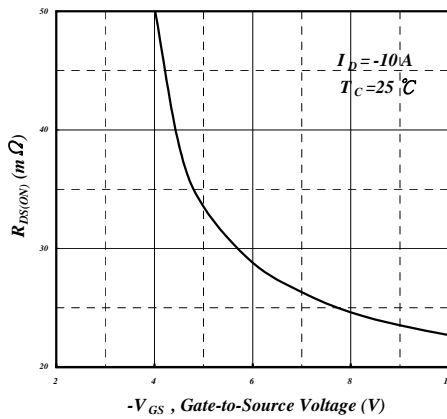
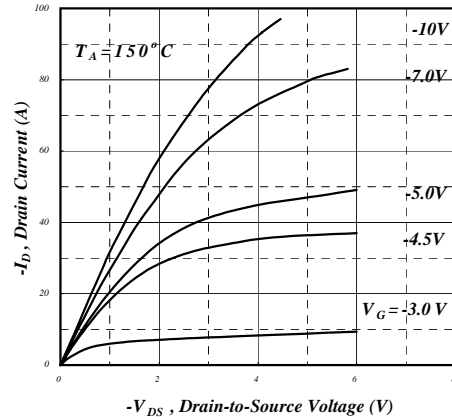
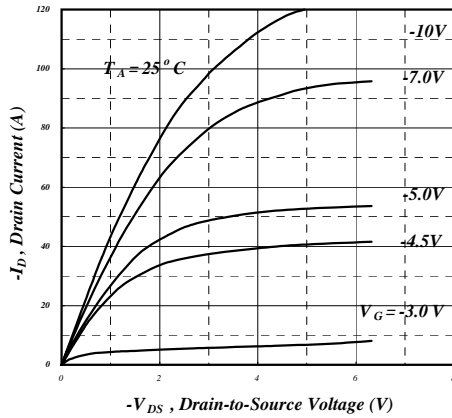
40P03

Electrical Characteristics Ta = 25

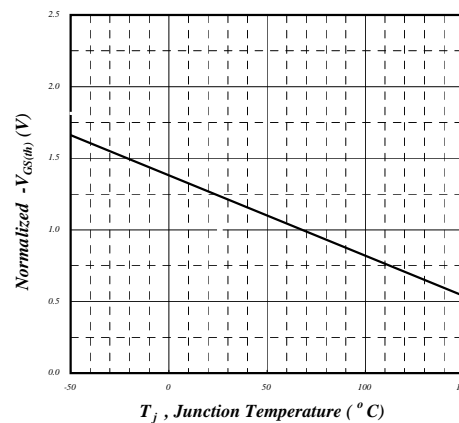
Parameter	Symbol	Testconditons	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μA, V _{GS} =0V	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-30V, V _{GS} =0V			-1	μA
		V _{DS} =-24V, V _{GS} =0V, T _J =150			-25	
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D =-250 μA	-1		-3	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-10V, I _D =-18A			28	m
		V _{GS} =-4.5V, I _D =-10A			50	
Forward Transconductance	g _{FS}	V _{DS} =-10V, I _D =-18A		20		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-25V, f=1MHz		915	1465	pF
Output Capacitance	C _{oss}			280		
Reverse Transfer Capacitance	C _{rss}			195		
Total Gate Charge	Q _g	V _{GS} =-4.5V, V _{DS} =-24V, I _D =-18A		14	22	nC
Gate Source Charge	Q _{gs}			3		
Gate Drain Charge	Q _{gd}			9		
Turn-On DelayTime	t _{d(on)}	V _{GS} =-10V, V _{DS} =-15V, R _D =0.8 Ω, R _G =3.3 Ω, I _D =-18A		12		ns
Turn-On Rise Time	t _r			56		
Turn-Off DelayTime	t _{d(off)}			30		
Turn-Off Fall Time	t _f			57		
Body Diode Reverse Recovery Time	t _{rr}	I _S =-18A, dI/dt=-100A/μs		30		
Body Diode Reverse Recovery Charge	Q _{rr}	I _S =-18A, dI/dt=-100A/μs		21		nC
Diode Forward Voltage	V _{SD}	I _S =-18A, V _{GS} =0V			-1.2	V

40P03

Typical Characteristics



v.s. Junction Temperature



40P03

■ Typical Characteristics

