

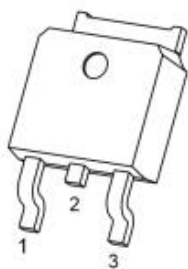
Product Summary

$V_{(BR)DSS}$	$R_{DS(on)TYP}$	I_D
-100V	190mΩ@-10V	-12A
	210mΩ@-4.5V	

Feature

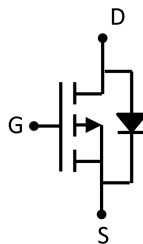
- High density cell design for ultra low $R_{DS(on)}$
- Fast Switching Speed
- Low Gate Charge

Package

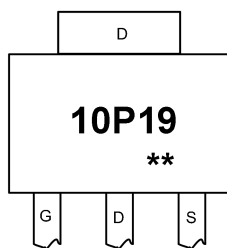


TO-252(1:G 2:D 3:S)

Circuit diagram



Marking



10P19 =Device Code
****** =Week Code

**Absolute maximum ratings (Ta=25°C unless otherwise noted)**

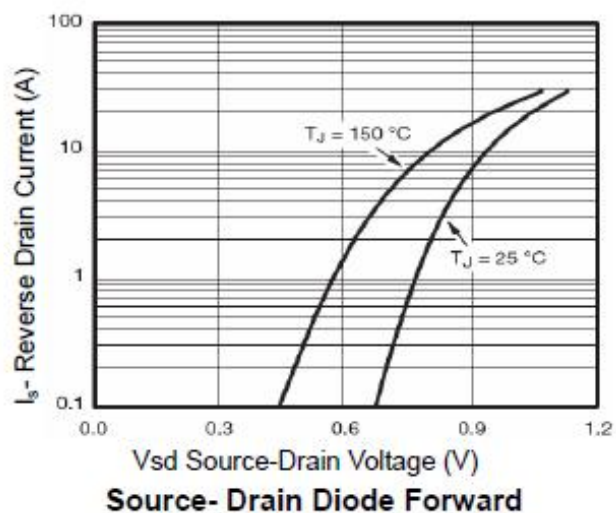
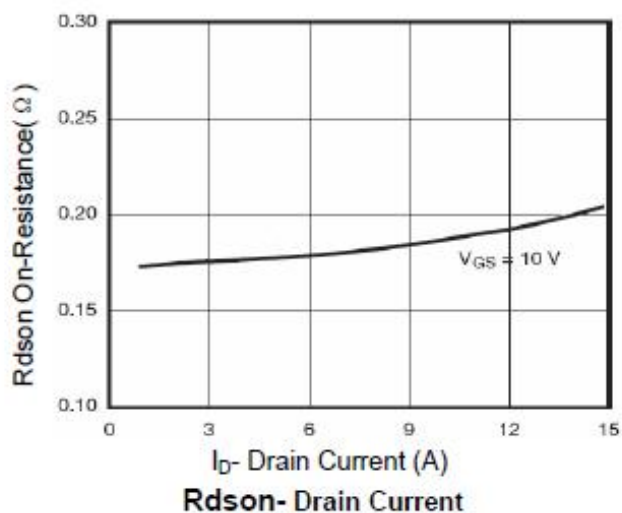
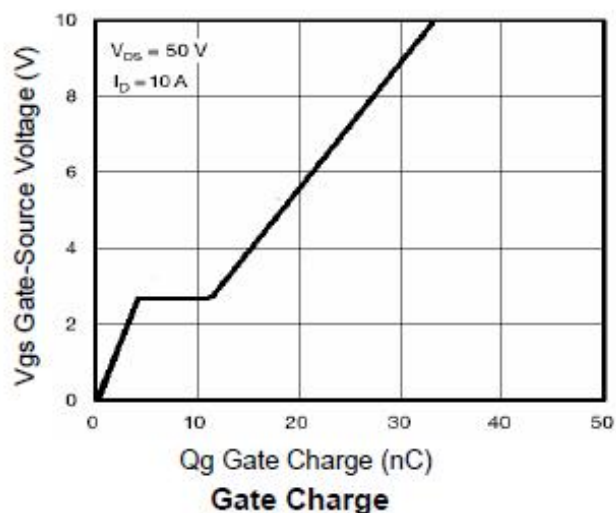
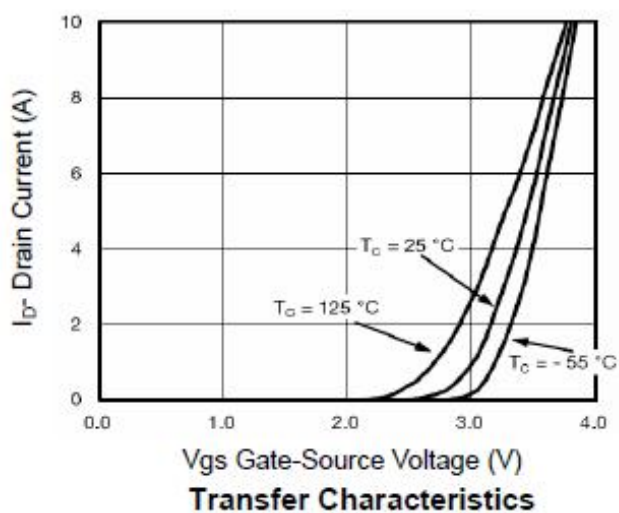
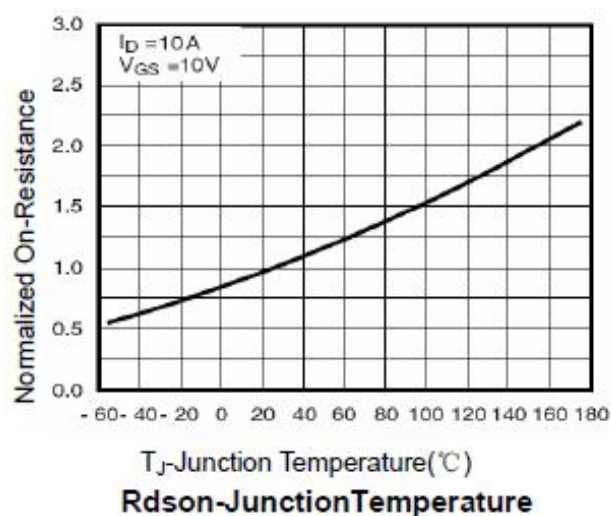
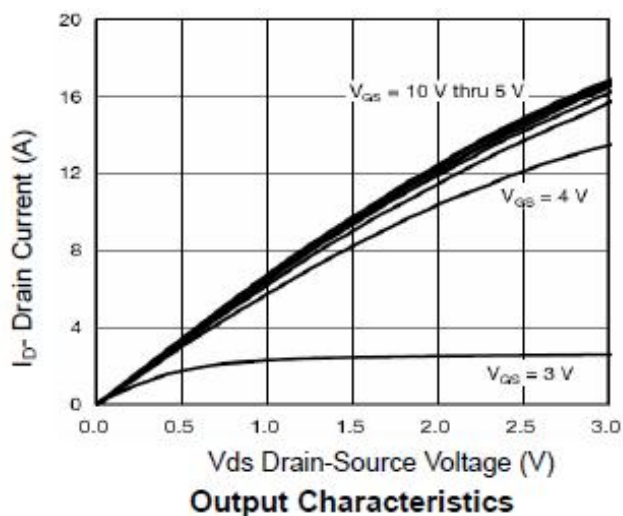
Parameter	Symbol	Rating	Units
Drain-Source Voltage	V_{DS}	-100	V
Gate-Source Voltage	V_{GS}	± 20	V
Continuous Drain Current ($T_C = 25^\circ\text{C}$)	I_D	-12	A
Pulsed Drain Current	I_{DM}	-48	A
Total Power Dissipation ($T_C = 25^\circ\text{C}$)	P_D	39	W
Thermal Resistance Junction-Case	$R_{\theta JC}$	3.2	$^\circ\text{C}/\text{W}$
Storage Temperature Range	T_{STG}	-55 to 150	$^\circ\text{C}$
Operating Junction Temperature Range	T_J	-55 to 150	$^\circ\text{C}$

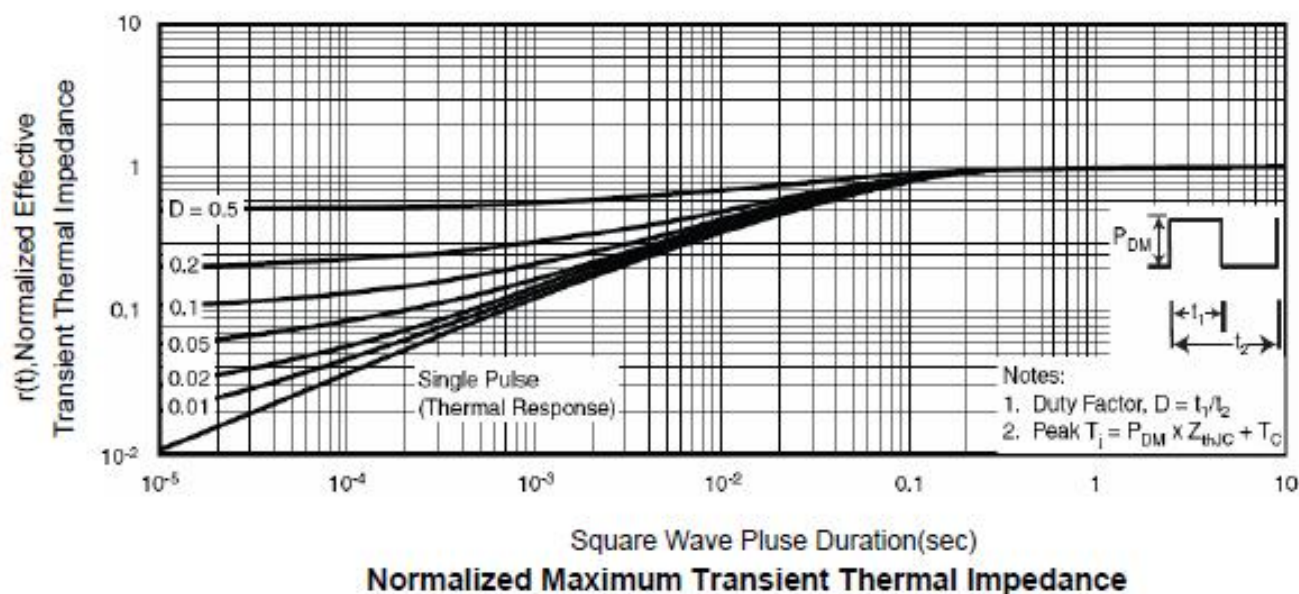
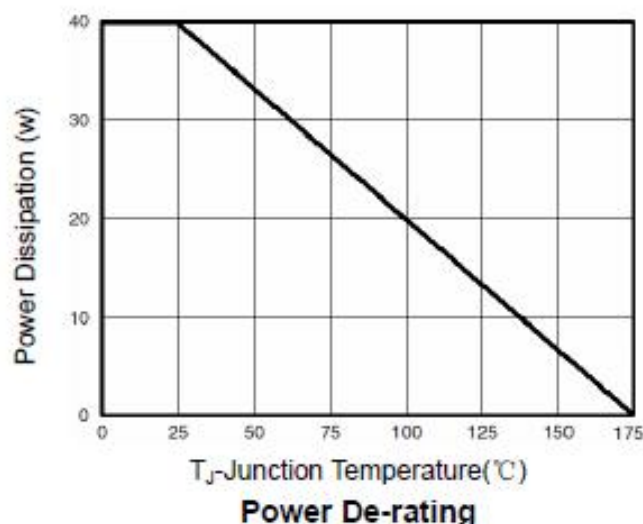
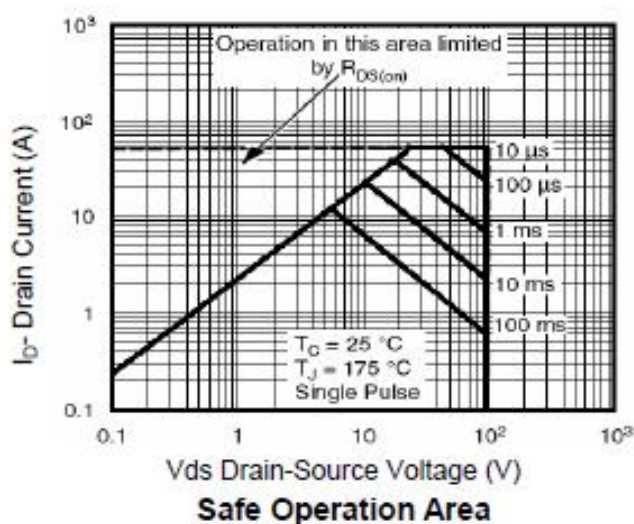
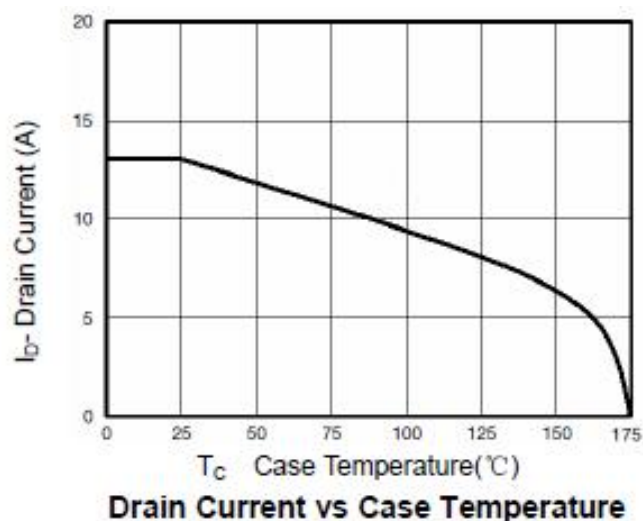
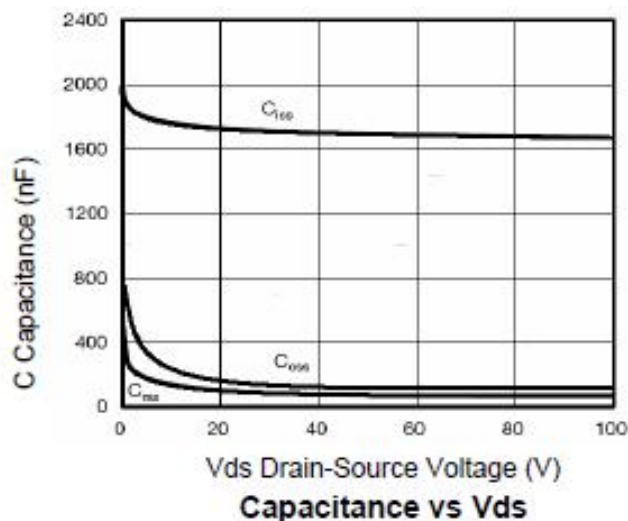
Electrical characteristics ($T_A=25^\circ\text{C}$, unless otherwise noted)

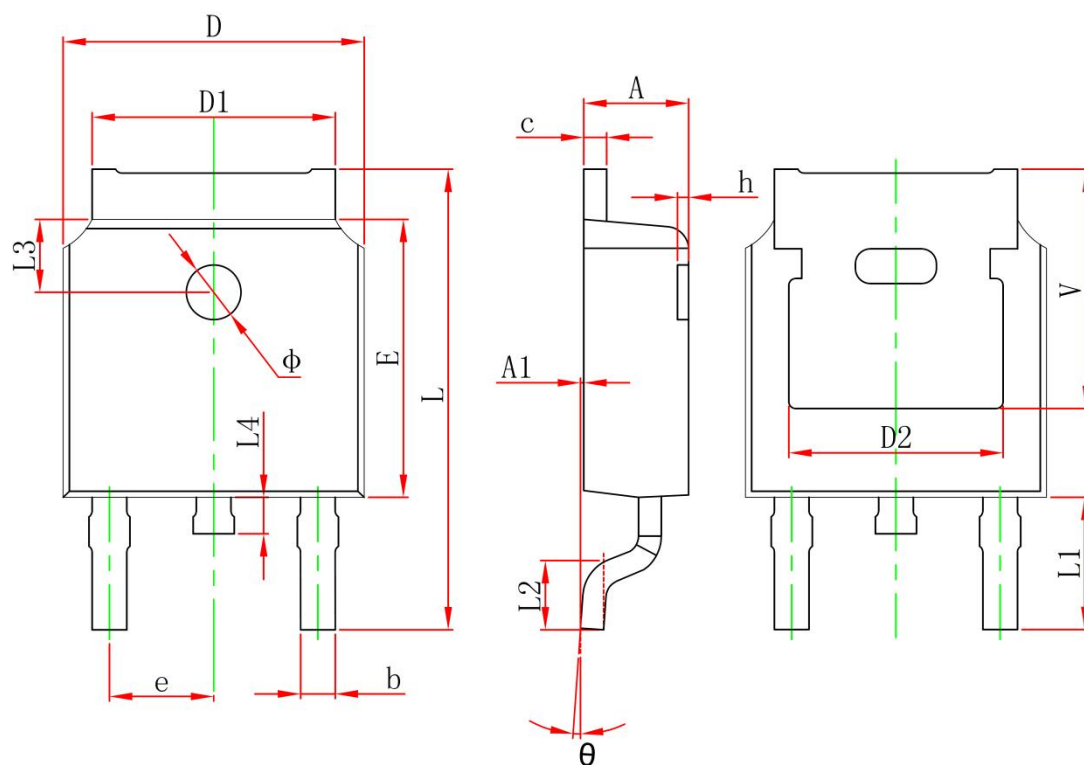
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Static Characteristics						
Drain-Source Breakdown Voltage	BV _{DSS}	VGS=0V , ID=-250uA	-100			V
Drain-Source Leakage Current	IDSS	VDS=-80V , VGS=0V			1	uA
Gate-Source Leakage Current	IGSS	VGS=±20V , VDS=0V			±100	nA
Gate Threshold Voltage	VGS(th)	VGS=VDS , ID =-250uA	-1	-1.5	-2.5	V
Static Drain-Source On-Resistance	RDS(ON)	VGS=-10V , ID=-10A		190	250	mΩ
		VGS=-4.5V , ID=-10A		210	300	
Dynamic characteristics						
Input Capacitance	Ciss	VDS=-25V , VGS=0V , f=1MHz		1239		pF
Output Capacitance	Coss			42		
Reverse Transfer Capacitance	Crss			38		
Switching Characteristics						
Turn-On Delay Time	Td(on)	VDD=-50V , VGS=-10V , RG=10Ω, ID=-3A		9.1		ns
Rise Time	Tr			14.9		
Turn-Off Delay Time	Td(off)			57.4		
Fall Time	Tf			34.4		
Total Gate Charge	Qg	VDS=-60V , VGS=-10V , ID=-3A		17.5		nC
Gate-Source Charge	Qgs			2.8		
Gate-Drain Charge	Qgd			3.2		
Source-Drain Diode characteristics						
Diode Forward Voltage	VSD	VGS=0V , IS=-1A			-1.2	V



Typical Characteristics





TO-252 Package Information


Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.660	0.860	0.026	0.034
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.800	10.400	0.386	0.409
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.350 REF.		0.211 REF.	