

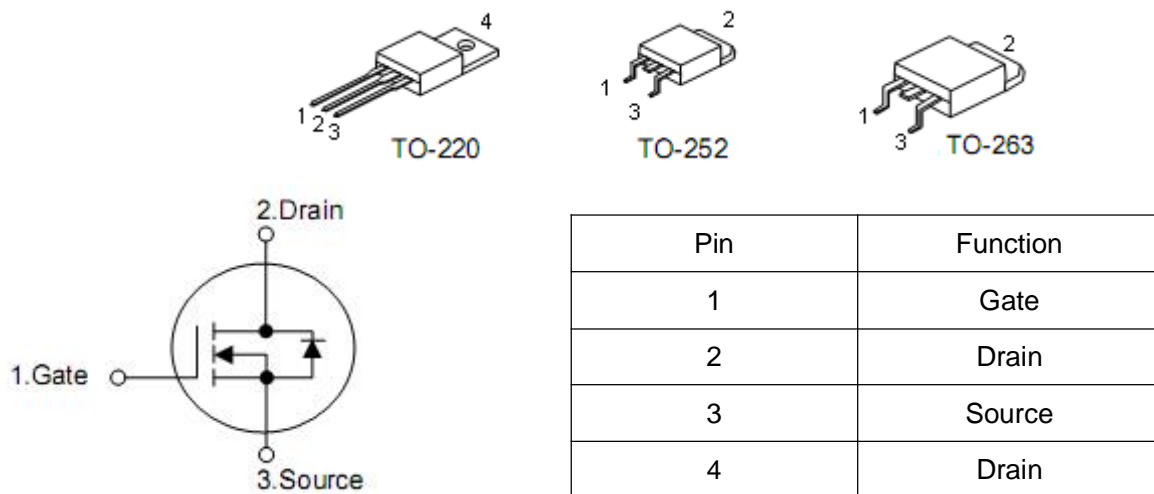
1. Features

- n $R_{DS(on)}=9m\Omega$ (typ.) @ $V_{GS}=10V$
- n 100% avalanche tested
- n Reliable and rugged
- n Lead free and green device available (RoHS Compliant)

2. Applications

- n Switching application
- n Power management for inverter systems

3.Symbol



4. Absolute maximum ratings

(T_A=25°C, unless otherwise noted)

Parameter	Symbol	Rating		Units	
		To-220/263	To-252		
Drain-source voltage	V _{DSS}	100		V	
Gate-source voltage	V _{GSS}	± 25		V	
Maximum junction temperature	T _J	175		°C	
Storage temperature range	T _{STG}	-55 to 175		°C	
Continuous drain current	I _D ³	T _C =25°C	75	65	A
		T _C =100°C	51	44	A
Pulsed drain current	I _{DP} ⁴	219		A	
Avalanche current	I _{AS} ⁵	30		A	
Avalanche energy	E _{AS} ⁵	225		mJ	
Maximum power dissipation	P _D	T _C =25 °C	166	W	
		T _C =100°C	83	W	

5. Thermal characteristics

Parameter	Symbol	Rating	Unit
Thermal resistance, Junction-ambient	R _{θJA}	62.5	°C/W
Thermal resistance, Junction-case	R _{θJC}	0.9	°C/W

6. Electrical characteristics

(T_A=25°C, unless otherwise noted)

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Drain-source breakdown voltage	BV _{DSS}	V _{GS} =0V, I _{DS} =250mA	100	-	-	V
Zero gate voltage drain current	I _{DSS}	V _{DS} =80V, V _{GS} =0V	-	-	1	μA
		T _J =125°C	-	-	20	
Gate threshold voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =250μA	2.0	3.0	4.0	V
Gate leakage current	I _{GSS}	V _{GS} =±25V, V _{DS} =0V	-	-	±100	nA
Drain-source on-state resistance	R _{DS(on)} ¹	V _{GS} =10V, I _{DS} =50A (TO-220\TO-263)	-	9	11	mΩ
		V _{GS} =10V, I _{DS} =50A (TO-252)	-	9	14	
Gate resistance	R _g	V _{DS} =0V, V _{GS} =0V, f=1MHz	-	1.2	-	Ω
Diode forward voltage	V _{SD} ¹	I _{SD} =50A, V _{GS} =0V	-	-	1.3	V
Reverse recovery time	t _{rr}	I _{SD} =50A, dI _{SD} /dt=100A/μs	-	46	-	nS
Reverse recovery charge	Q _{rr}		-	86	-	nC
Input capacitance	C _{iss}	V _{DS} =25V, V _{GS} =0V, f=1MHz	-	2946	-	pF
Output capacitance	C _{oss}		-	339	-	
Reverse transfer capacitance	C _{rss}		-	179	-	
Turn-on delay time	t _{d(on)}	V _{DD} =50V, I _{DS} =30A, R _G =6.8Ω, V _{GS} =10V	-	15	-	ns
Rise time	t _r		-	108	-	
Turn-off delay time	t _{d(off)}		-	51	-	
Fall time	t _f		-	59	-	
Total gate charge	Q _g	V _{DS} =50V, V _{GS} =10V I _{DS} =30A	-	60	-	nC
Gate-source charge	Q _{gs}		-	13.7	--	
Gate-drain charge	Q _{gd}		-	22.8	--	

Note : 1. Pulse test; pulse width ≤ 300μs duty cycle ≤ 2%.

2. Guaranteed by design, not subject to production testing.

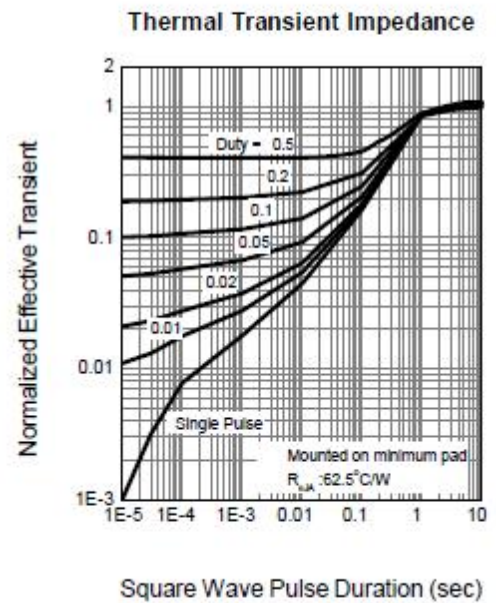
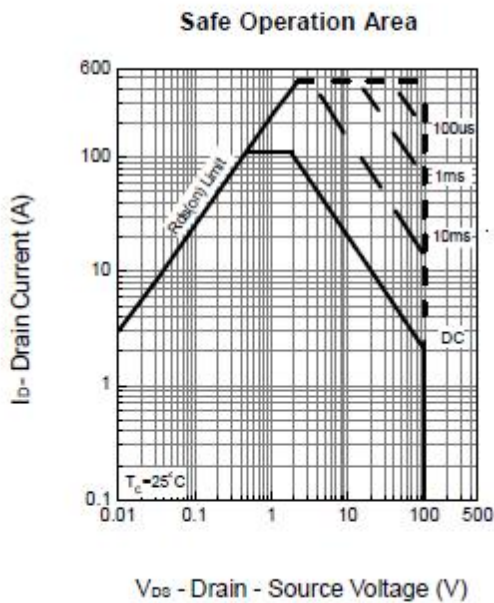
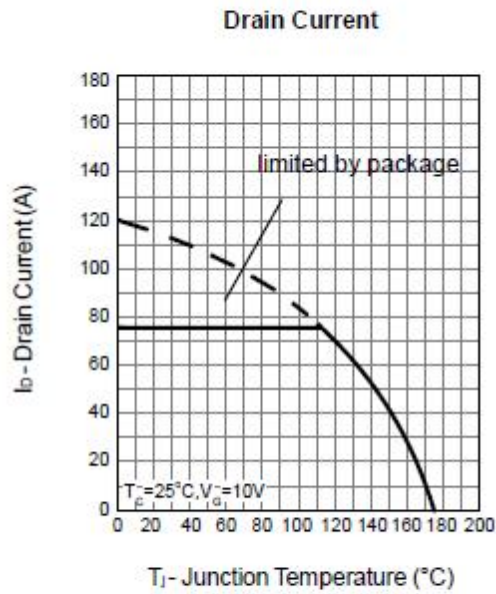
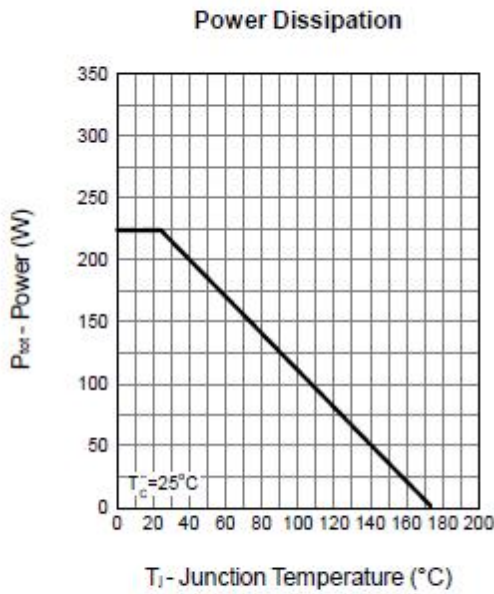
3. Package limitation current is 55A.

4. Repetitive rating, pulse width limited by max junction temperature.

5. Starting T_J=25°C, L=0.5mH, I_{AS}=30A.

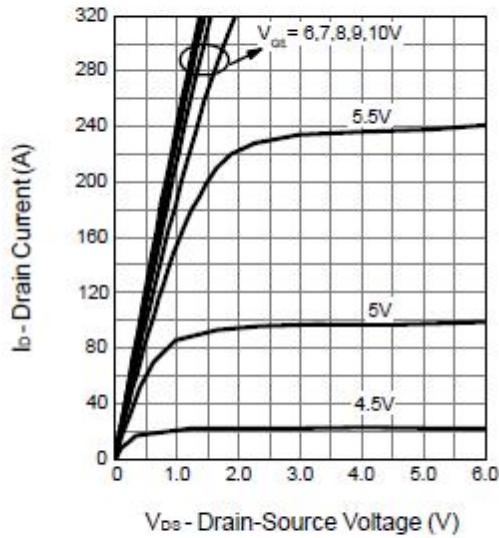
7. Test circuits and waveforms

Typical Operating Characteristics

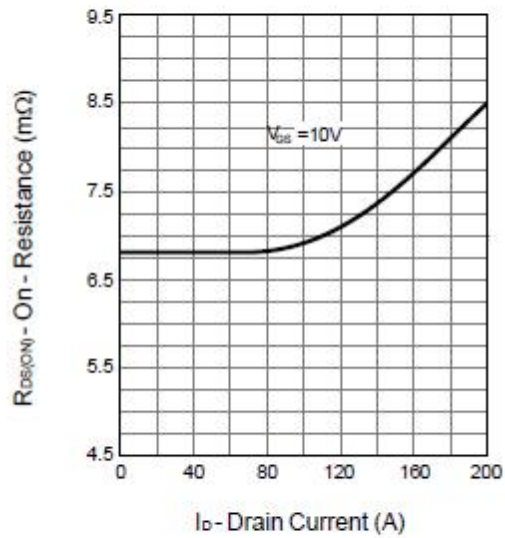


Typical Operating Characteristics (Cont.)

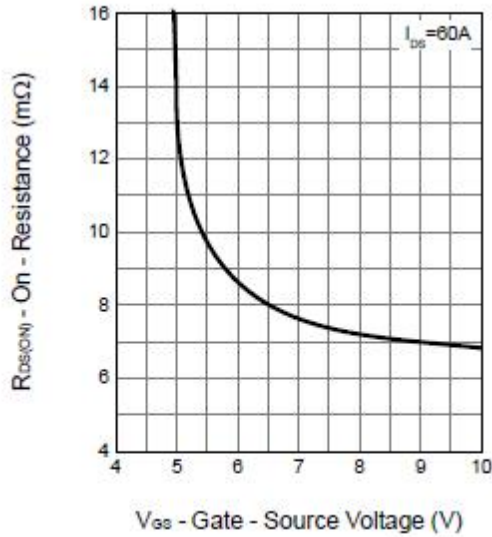
Output Characteristics



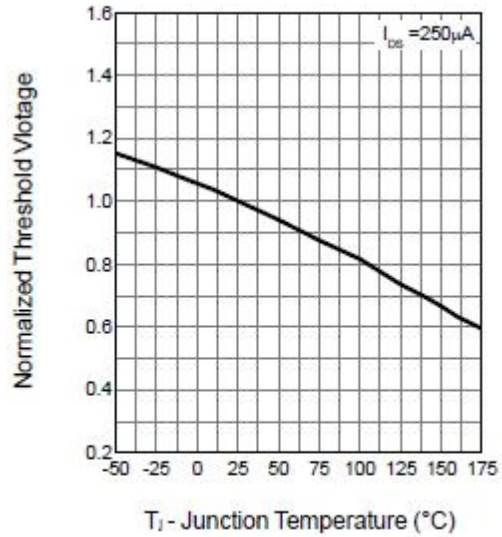
Drain-Source On Resistance



Drain-Source On Resistance

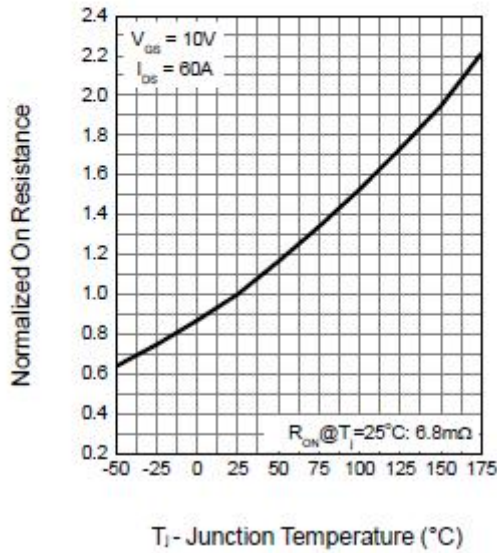


Gate Threshold Voltage

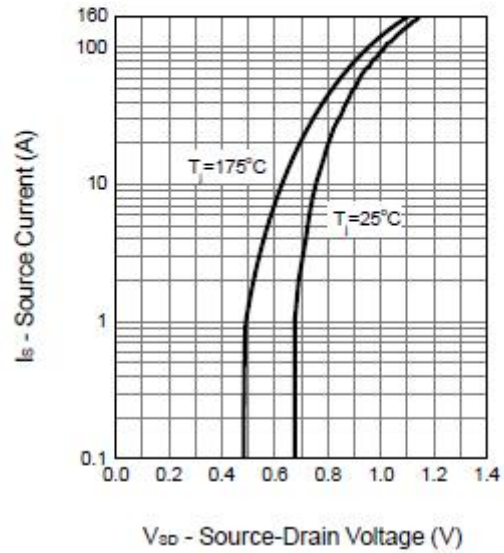


Typical Operating Characteristics (Cont.)

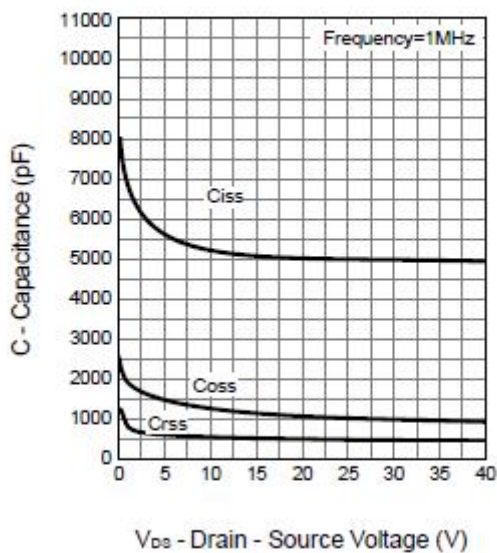
Drain-Source On Resistance



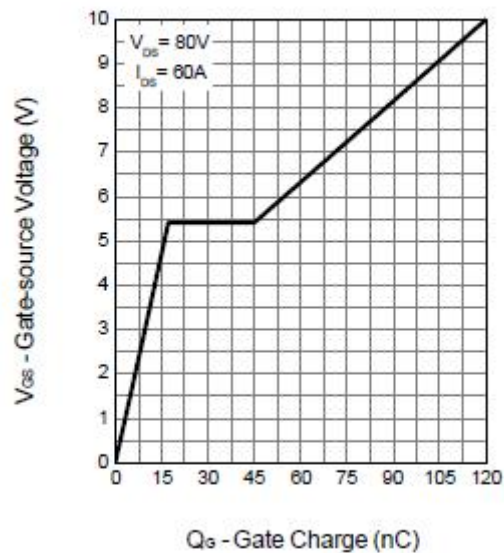
Source-Drain Diode Forward



Capacitance



Gate Charge



X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [MOSFET](#) category:

Click to view products by [KIA](#) manufacturer:

Other Similar products are found below :

[614233C](#) [648584F](#) [NTNS3A92PZT5G](#) [IRFD120](#) [IRFF430](#) [JANTX2N5237](#) [2N7000](#) [2SK2464-TL-E](#) [FCA20N60_F109](#) [FDZ595PZ](#) [2SJ277-DL-E](#) [2SK2267\(Q\)](#) [2SK2545\(Q,T\)](#) [405094E](#) [423220D](#) [MCH6646-TL-E](#) [MIC4420CM-TR](#) [VN1206L](#) [614234A](#) [715780A](#)
[SSM6J414TU,LF\(T](#) [751625C](#) [PSMN4R2-30MLD](#) [TK31J60W5,S1VQ\(O](#) [2SK2614\(TE16L1,Q\)](#) [DMN1017UCP3-7](#) [EFC2J004NUZTDG](#)
[FCAB21350L1](#) [P85W28HP2F-7071](#) [DMN1053UCP4-7](#) [NTE2384](#) [NTE2969](#) [NTE6400A](#) [DMN61D9UWQ-13](#) [US6M2GTR](#) [DMN31D5UDJ-7](#) [SSM6P54TU,LF](#) [DMP22D4UFO-7B](#) [IPS60R3K4CEAKMA1](#) [DMN1006UCA6-7](#) [DMN16M9UCA6-7](#) [STF5N65M6](#) [STU5N65M6](#)
[C3M0021120D](#) [DMN13M9UCA6-7](#) [BSS340NWH6327XTSA1](#) [MCM3400A-TP](#) [DMTH10H4M6SPS-13](#) [IPS60R1K0PFD7SAKMA1](#)
[IPS60R360PFD7SAKMA1](#)