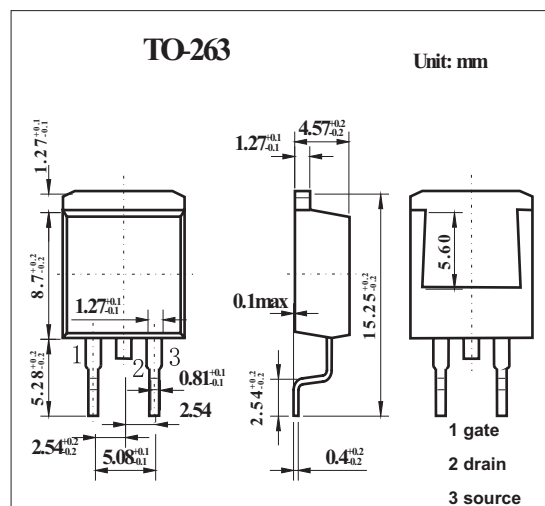
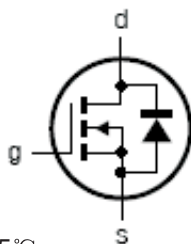


TrenchMOS™ standard level FET

KUK7606-55A

■ Features

- TrenchMOS™ technology
- Q101 compliant
- 175°C rated
- Standard level compatible.



■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Drain-source voltage	V_{DS}	30	V
Drain-gate voltage $R_{GS} = 20\text{ K}\Omega$	V_{DGR}	30	V
Gate-source voltage	V_{GS}	20	V
Drain current (DC) $T_{mb} = 25^\circ\text{C}$	I_D	75	A
Drain current (DC) $T_{mb} = 100^\circ\text{C}$	I_D	75	A
Drain current (pulse peak value) $T_{mb} = 25^\circ\text{C}$	I_{DM}	400	A
Total power dissipation $T_{mb} = 25^\circ\text{C}$	P_{tot}	230	W
Storage & operating temperature	T_{stg}, T_j	-55 to 175	$^\circ\text{C}$
reverse drain current (DC) $T_{mb} = 25^\circ\text{C}$	I_{DR}	154	A
		75	A
pulsed reverse drain current	I_{DRM}	616	A
non-repetitive avalanche energy	W_{DSS}	1.1	J
Thermal resistance junction to mounting base	$R_{th\ j-mb}$	0.65	K/W
Thermal resistance junction to ambient	$R_{th\ j-a}$	50	K/W

KUK7606-55A

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
drain-source breakdown voltage	V _{(BR)DSS}	I _D = 0.25 mA; V _{GS} = 0 V; T _J = 25°C	30			V
		I _D = 0.25 mA; V _{GS} = 0 V; T _J = -55°C	27			V
gate-source threshold voltage	V _{GS(th)}	I _D = 1 mA; V _{DS} = V _{GS} ; T _J = 25°C	2	3	4	V
		I _D = 1 mA; V _{DS} = V _{GS} ; T _J = 175°C	1			V
		I _D = 1 mA; V _{DS} = V _{GS} ; T _J = -55°C			4.4	V
Zero gate voltage drain current	I _{DSS}	V _{DS} = 30 V; V _{GS} = 0 V; T _J = 25°C		0.05	10	μA
		V _{DS} = 30 V; V _{GS} = 0 V; T _J = 175°C			500	μA
gate-source leakage current	I _{GSS}	V _{GS} = ±20 V; V _{DS} = 0 V		2	100	nA
drain-source on-state resistance	R _{DS(on)}	V _{GS} = 10 V; I _D = 25 A; T _J = 25°C		4.3	5	mΩ
		V _{GS} = 10 V; I _D = 25 A; T _J = 175°C			9.3	mΩ
input capacitance	C _{iss}	V _{GS} = 0 V; V _{DS} = 25 V; f = 1 MHz		4500	6000	pF
output capacitance	C _{oss}			1500	1800	pF
reverse transfer capacitance	C _{rss}			960	1300	pF
turn-on delay time	t _{d(on)}			35	55	ns
rise time	t _r	V _{DD} = 30 V; R _L = 1.2Ω; V _{GS} = 10 V; R _G = 10Ω		130	200	ns
turn-off delay time	t _{d(off)}			155	230	ns
fall time	t _f			150	220	ns
internal drain inductance	L _d		from drain lead 6 mm from package to centre of die		2.5	
internal source inductance	L _s	Measured from source lead soldering point to source bond pad		7.5		nH
Continuous reverse drain current	I _{DR}				75	A
Pulsed reverse drain current	I _{DRM}				240	A
source-drain (diode forward) voltage	V _{SD}	I _F = 25 A; V _{GS} = 0 V		0.85	1.2	V
		I = 75 A; V = 0 V		1.1		V
reverse recovery time	t _{rr}	I _S = 75 A; -di _F /dt = 100 A/μs;		400		ns
recovered charge	Q _r	V _{GS} = -10 V; V _{DS} = 30 V		1.0		μC
Drain-source non-repetitive unclamped inductive turn-off energy	W _{DSS}	I _D = 75 A; V _{DD} ≤ 25 V; V _{GS} = 10 V; R _{GS} = 50 Ω; T _{mb} = 25 °C			500	mJ