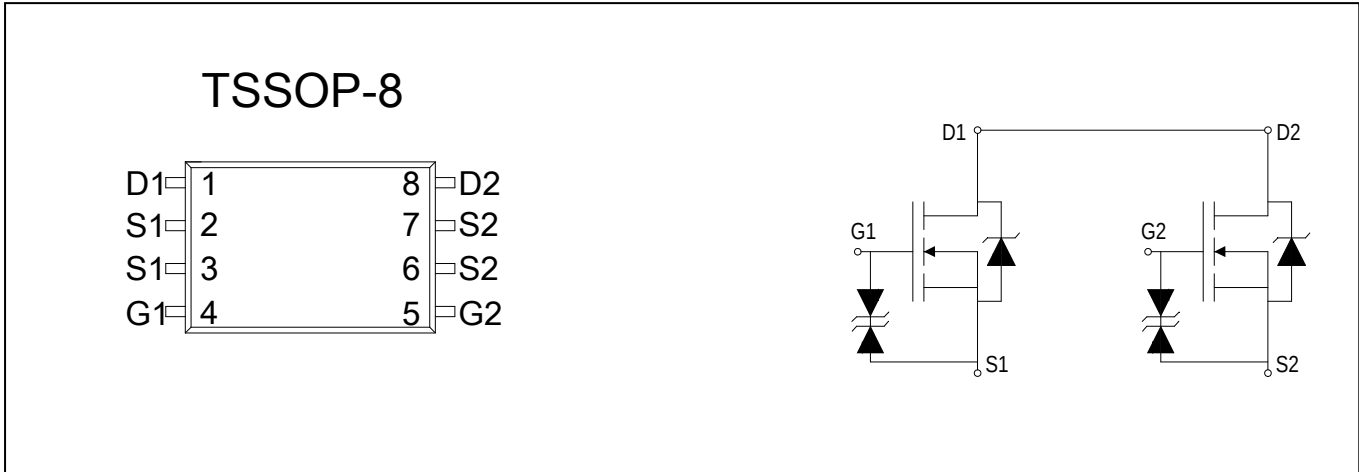


Common-Drain Dual N-Channel Enhancement Mode Field Effect Transistor



PRODUCT SUMMARY

V_{DSS}	I_D	$R_{DS(ON)} (m\Omega)$
20V	7A	21mΩ

Absolute Maximum Ratings ($T_A = 25^{\circ}C$ unless otherwise specified)

Symbol	Parameter		Ratings	Unit
Common Ratings				
V _{DSS}	Drain-Source Voltage		20	V
V _{GSS}	Gate-Source Voltage		± 12	
T _J	Maximum Junction Temperature		150	°C
T _{STG}	Storage Temperature Range		-55 to 150	°C
I _S	Diode Continuous Forward Current (3)	T _C =25°C	2.4	A
Mounted on Large Heat Sink				
I _{DM}	300μs Pulse Drain Current Tested(1)	T _C =25°C	25	A
I _D	Continuous Drain Current	T _C =25°C	7	A
		T _C =70°C	5.5	A
P _D	Maximum Power Dissipation	T _C =25°C	1.5	W
		T _C =70°C	0.96	W

1. Pulse width limited by maximum junction temperature.

Thermal Characteristics

Symbol	Parameter	Ratings	Unit
R_{thJA}	Thermal resistance junction-ambient max (3)	83	$^{\circ}C/W$

Electrical Characteristics (TA=25°C Unless Otherwise Noted)

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
On/off Characteristics						
BV _{DSS}	Drain-Source Breakdown Voltage	V _{GS} =0V, I _{DS} =250uA	20	--	--	V
I _{DSS}	Zero Gate Voltage Drain Current	V _{DS} =20V, V _{GS} =0V	--	--	1	uA
		V _{DS} =20V, V _{GS} =0V T _J =55°C	--	--	5	
V _{GS(th)}	Gate Threshold Voltage	V _{DS} =V _{GS} , I _{DS} =250uA	0.6	0.8	1	V
I _{GSS}	Gate Leakage Current	V _{GS} = ± 10V, V _{DS} =0V	--	--	± 10	uA
R _{DS(ON)}	Drain-SourceOn-stateResistance(2)	V _{GS} = 10V, I _{DS} =7A	--	16.5	21.0	mΩ
R _{DS(ON)}	Drain-SourceOn-stateResistance(2)	V _{GS} = 4.5V, I _{DS} =6.5A	--	20.0	24.0	mΩ
R _{DS(ON)}	Drain-SourceOn-stateResistance(2)	V _{GS} = 2.5V, I _{DS} =5.5A	--	26.0	32.0	mΩ
Dynamic Characteristics						
C _{iss}	Input Capacitance	V _{GS} =0V,	--	686.3	--	pF
C _{oss}	Output Capacitance	V _{DS} = 8V,	--	97.2	--	
C _{rss}	Reverse Transfer Capacitance	Frequency=200KHz	--	94	--	
Switching Characteristics						
t _{d(ON)}	Turn-on Delay Time(1)	V _{DD} =15V,	--	385.9	--	ns
t _r	Turn-on Rise Time(1)	I _D = 1A, V _{GS} = 4.5V,	--	899.9	--	
t _{d(OFF)}	Turn-off Delay Time(1)	R _{GEN} =6 Ω	--	4575.0	--	
t _f	Turn-off Fall Time(1)		--	2554.0	--	
Q _g	Total Gate Charge(1)	V _{DS} =10V, V _{GS} = 4.5V,	--	6.1	12	nC
Q _{gs}	Gate-Source Charge(1)	I _{DS} =6.0A	--	2.0	--	
Q _{gd}	Gate-Drain Charge(1)		--	1.2	--	
Diode Characteristics						
V _{SD}	Diode Forward Voltage(2)	I _{SD} = 1.7A, V _{GS} = 0	--	--	1.2	V

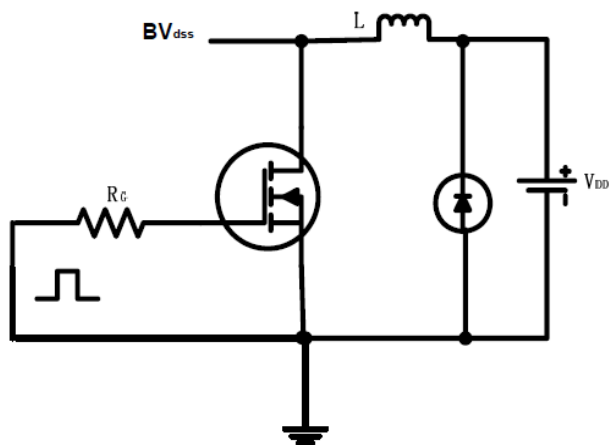
NOTES:

1. Independent of operating temperature.
2. Pulse Test : Pulse width ≤ 300 μs, Duty cycle ≤ 2%
3. Surface Mounted on FR4 Board, t < 10 sec. 1-in² 2oz Cu PCB board.

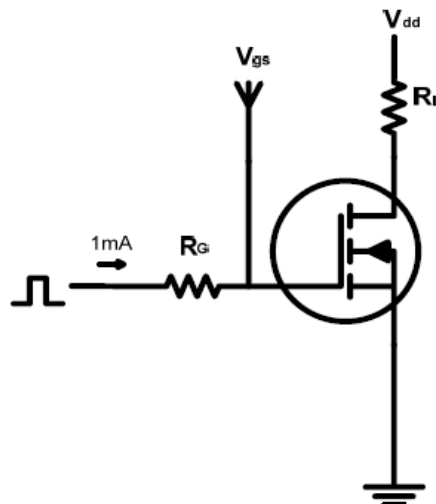
Typical Performance Characteristics

Test circuits and Waveforms

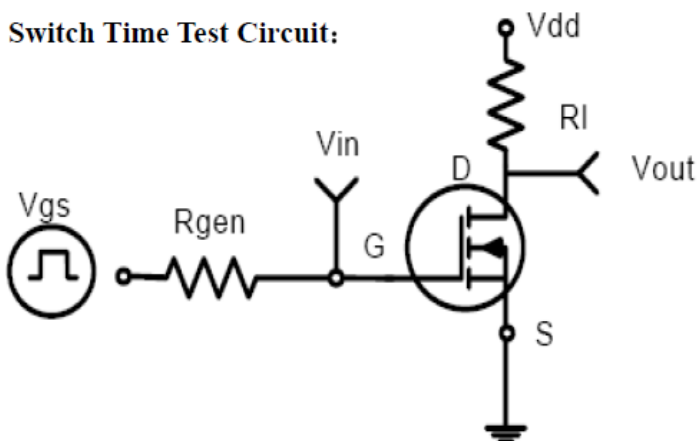
EAS test circuits:



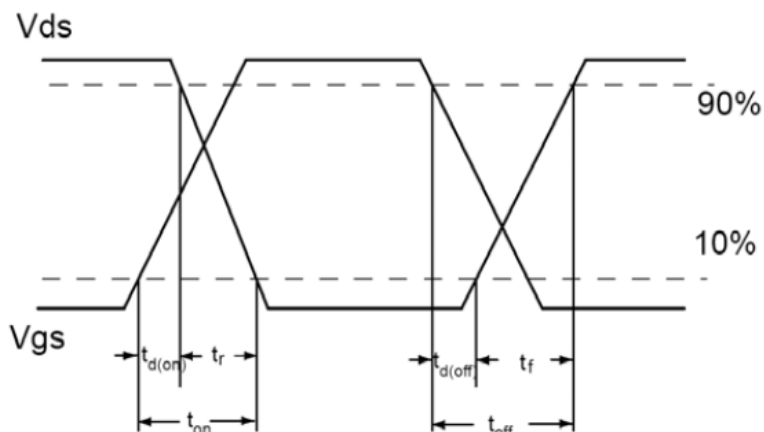
Gate charge test circuit:



Switch Time Test Circuit:



Switch Waveforms:



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