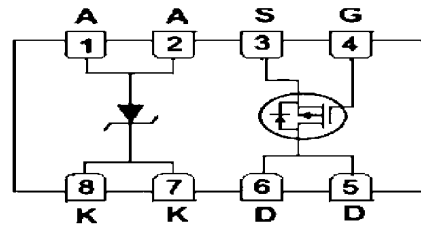
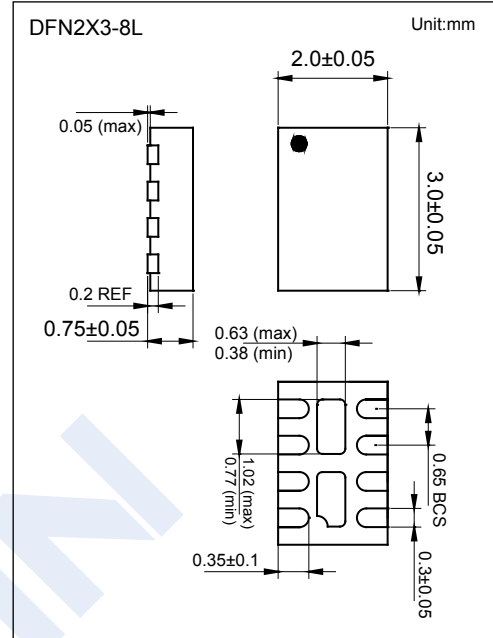
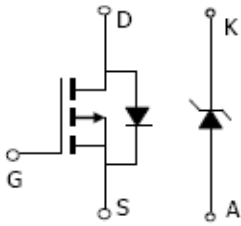


P+Schottky Hybrid MOSFET

SSF4703 (KSF4703)

■ Features

- $V_{DS} = -20V$
- $I_D = -3.4 A$ ($V_{GS} = -10V$)
- $R_{DS(ON)} < 90m\Omega$ ($V_{GS} = -4.5V$)
- $R_{DS(ON)} < 120m\Omega$ ($V_{GS} = -2.5V$)
- $R_{DS(ON)} < 160m\Omega$ ($V_{GS} = -1.8V$)
- $V_R = 20V$, $I_F = 1A$, $V_F < 0.5V @ 0.5A$
- High Power and current handing capability



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

Parameter	Symbol	MOSFET	Schottky	Unit
Drain-Source Voltage	V_{DS}	-20	-	V
Gate-Source Voltage	V_{GS}	± 8	-	
Continuous Drain Current	I_D	-3.4	-	A
Pulsed Drain Current	I_{DM}	-15	-	
Schottky Reverse Voltage	V_R	-	20	V
Continuous Forward Current	I_F	-	1.9	A
Pulsed Forward Current	I_{FM}	-	7	
Power Dissipation	P_D	1.7	0.96	W
Thermal Resistance.Junction- to-Ambient	R_{thJA}	75	80	$^\circ C/W$
Junction Temperature	T_J	150		$^\circ C$
Junction Storage Temperature Range	T_{stg}	-55 to 150		

P+Schottky Hybrid MOSFET

SSF4703 (KSF4703)

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Drain-Source Breakdown Voltage	V _{DSS}	I _D =-250 μ A, V _{GS} =0V	-20			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} =-16V, V _{GS} =0V			-1	μA
Gate-Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} =±8V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} , I _D =-250μA	-0.45		-1	V
Static Drain-Source On-Resistance	R _{DS(on)}	V _{GS} =-4.5V, I _D =-3.4A			90	mΩ
		V _{GS} =-2.5V, I _D =-2.5A			120	
		V _{GS} =-1.8V, I _D =-1.5A			160	
Forward Transconductance	g _{FS}	V _{DS} =-5V, I _D =-3.4A	4	7		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} =-10V, f=1MHz		540		pF
Output Capacitance	C _{oss}			70		
Reverse Transfer Capacitance	C _{rss}			50		
Total Gate Charge	Q _g	V _{GS} =-10V, V _{DS} =-3.4V, I _D =-4.5A		6.1		nC
Gate Source Charge	Q _{gs}			0.6		
Gate Drain Charge	Q _{gd}			1.6		
Turn-On DelayTime	t _{d(on)}	V _{DD} =-10V, I _D =-3.4A V _{GS} =-4.5V, R _{GEN} =3Ω		10		ns
Turn-On Rise Time	t _r			12		
Turn-Off DelayTime	t _{d(off)}			44		
Turn-Off Fall Time	t _f			22		
Forward Voltage Drop	V _F	I _F =0.5A			0.5	V
Maximum Reverse Leakage Current	I _{rrm}	V _R =16V			0.1	mA
Junction Capacitance	C _T	V _R =10V		34		pF
Body Diode Reverse Recovery Time	t _{rr}	I _F =-1A, di/dt=100A/us		5.2	10	ns
Body Diode Reverse Recovery Charge	Q _{rr}				0.8	
Maximum Body-Diode Continuous Current	I _S				-2	A
Diode Forward Voltage	V _{SD}	I _S =-1A, V _{GS} =0V			-1	V

Note :Pulse Test: Pulse Width ≤ 300μs, Duty Cycle ≤ 2%.

■ Marking

Marking	4703
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P+Schottky Hybrid MOSFET SSF4703 (KSF4703)

■ Typical Characteristics

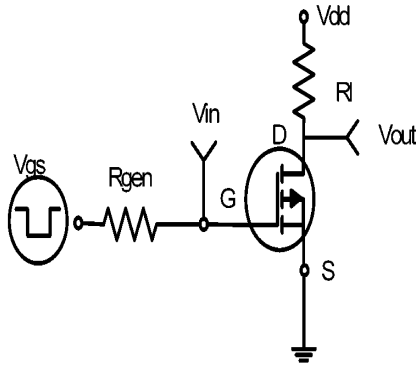


Figure 1: Switching Test Circuit

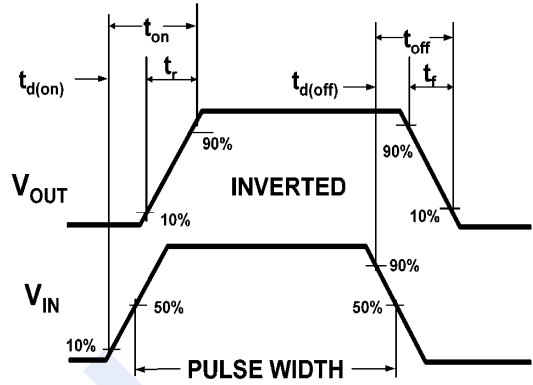


Figure 2: Switching Waveforms

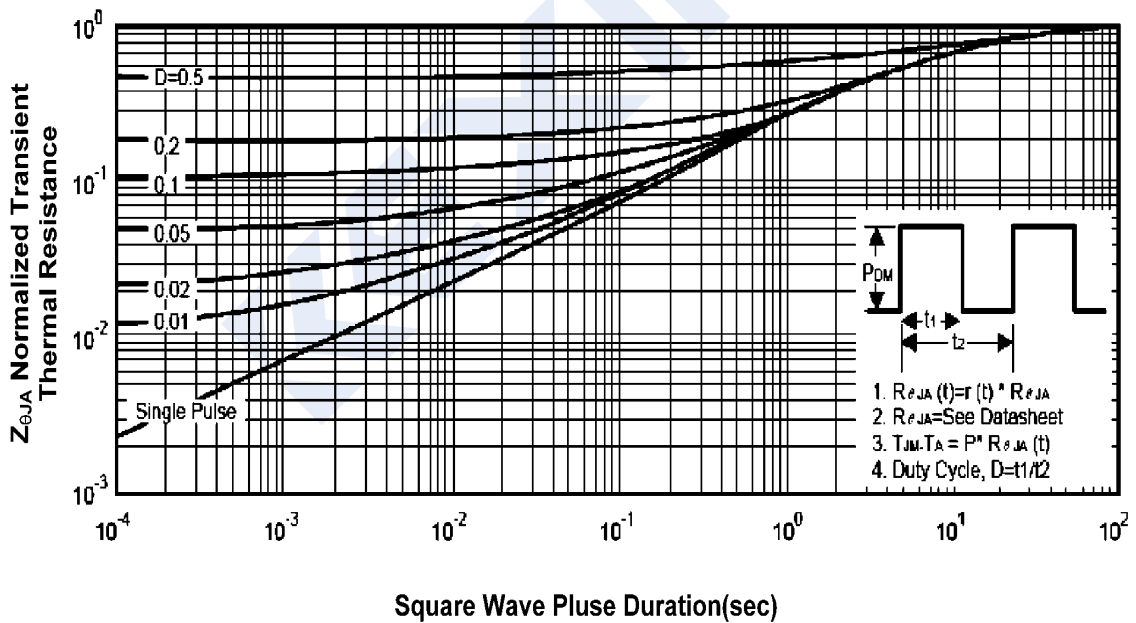


Figure 3: Normalized Maximum Transient Thermal Impedance