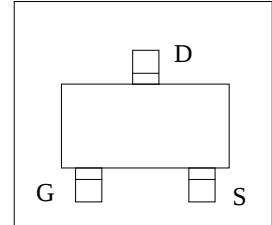
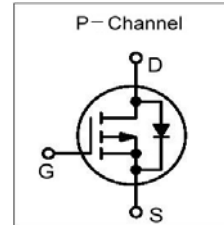


**-30V P-Channel Enhancement Mode MOSFET** **$V_{DS} = -30V$** **$R_{DS(ON)}, V_{GS}@-10V, I_{DS}@-2.6A < 100m\Omega$** **$R_{DS(ON)}, V_{GS}@-4.5V, I_{DS}@-2.0A < 150m\Omega$** **Features**

Advanced trench process technology

High Density Cell Design For Ultra Low On-Resistance

**SOT-23****Order Information**

Product	Package	Marking	Packing
PT3409	SOT-23	A98T	3000PCS/Reel

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

Parameter	Symbol	Rating	Unit
Drain Source Voltage	V_{DS}	-30	V
Gate Source Voltage	V_{GS}	± 20	V
Continuous Drain Current $T_A = 25^\circ C$ $T_A = 70^\circ C$	I_D	-2.6 -2.2	A
Pulsed Drain Current	I_{DM}	-20	
Power Dissipation $T_A = 25^\circ C$ $T_A = 70^\circ C$	P_D	1.4 1	W
Thermal Resistance. Junction to Ambient	R_{thJA}	100	$^\circ C/W$
Junction and Storage Temperature Range	T_J, T_{STG}	55 to 150	$^\circ C$

**-30V P-Channel Enhancement Mode MOSFET**

■ Electrical Characteristics Ta = 25°C

Parameter	Symbol	Testconditions	Min	Typ	Max	Unit
Drain Source Breakdown Voltage	V _{DSS}	I _D =-250 μ A, V _{GS} =0V	-30			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = -24V, V _{GS} =0V			-1	μ A
Gate Body leakage current	I _{GSS}	V _{DS} =0V, V _{GS} = $\pm$ 20V			$\pm$ 100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} =V _{GS} I _D = 250 μ A	-1		-3	V
Static Drain Source On Resistance	r _{DS(ON)}	V _{GS} = -10V, I _D = -2.6A			100	m Ω
		V _{GS} = -4.5V, I _D = -2A			150	
Forward Transconductance	g _{fs}	V _{DS} = -5V I _D = -2.6A		3.8		S
Input Capacitance	C _{iss}	V _{GS} =0V, V _{DS} = -15V, f=1MHz		302		pF
Output Capacitance	C _{oss}			50.3		pF
Reverse Transfer Capacitance	C _{rss}			37.8		pF
Gate resistance	R _g	V _{GS} =0V, V _{DS} =0V, f=1MHz		12		Ω
Total Gate Charge (10V)	Q _g	V _{GS} = -4.5V, V _{DS} = -15V, I _D = -2.6A		6.8		nC
Total Gate Charge (4.5V)				2.4		nC
Gate Source Charge				1.6		nC
Gate Drain Charge				0.95		nC
Turn On DelayTime	t _{D(on)}	V _{GS} = -10V, V _{DS} = -15V, R _L =5.8 Ω , R _{GEN} =3 Ω		7.5		ns
Turn On Rise Time	t _r			3.2		ns
Turn Off DelayTime	t _{D(off)}			17		ns
Turn Off Fall Time	t _f			6.8		ns
Maximum Body Diode Continuous Current	I _S				-2	A
Diode Forward Voltage	V _{SD}	I _S = -1A, V _{GS} =0V		-0.8	-1.3	V

* Repetitive rating, pulse width limited by junction temperature.



-30V P-Channel Enhancement Mode MOSFET

■ Typical Characteristics

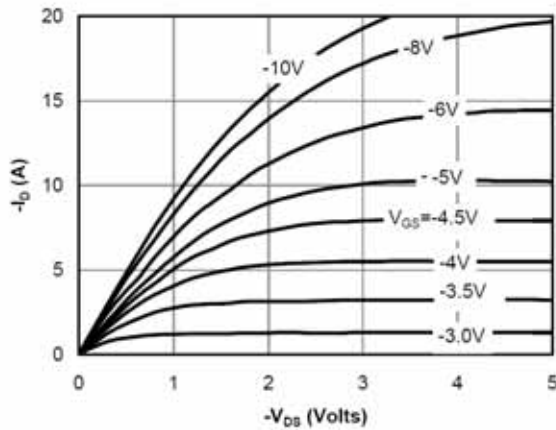


Fig 1: On-Region Characteristics

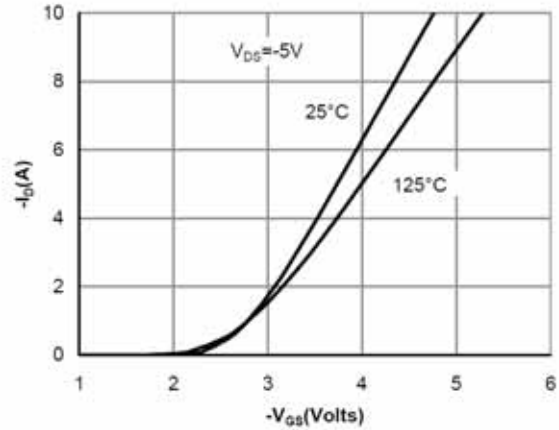


Figure 2: Transfer Characteristics

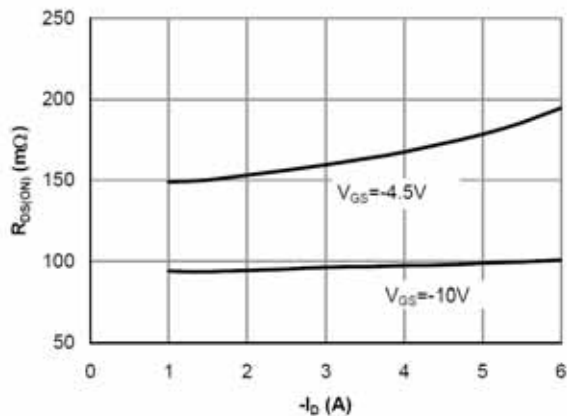


Figure 3: On-Resistance vs. Drain Current and Gate Voltage

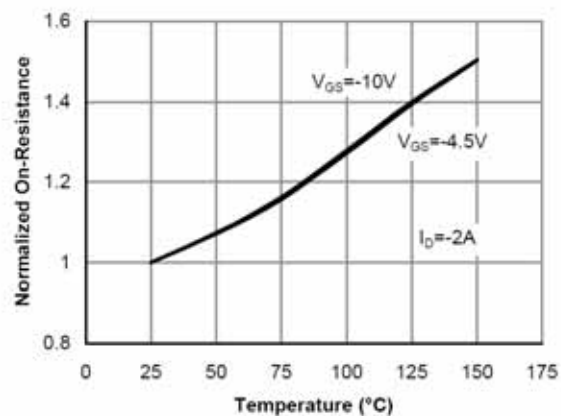


Figure 4: On-Resistance vs. Junction Temperature

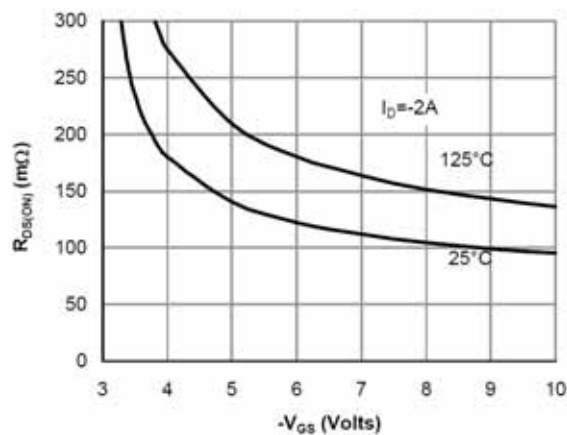


Figure 5: On-Resistance vs. Gate-Source Voltage

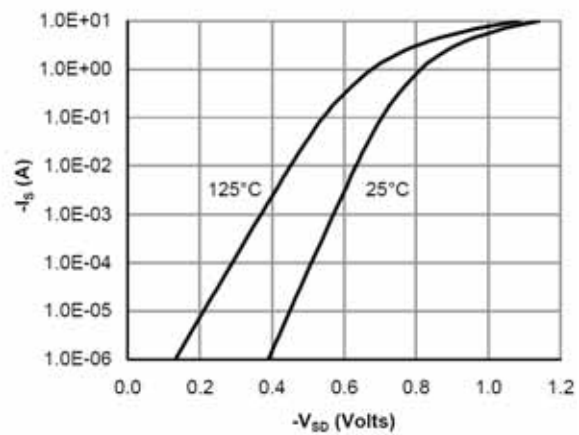


Figure 6: Body-Diode Characteristics

-30V P-Channel Enhancement Mode MOSFET

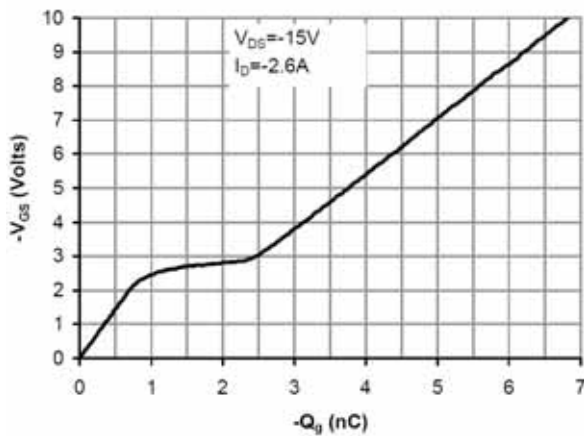


Figure 7: Gate-Charge Characteristics

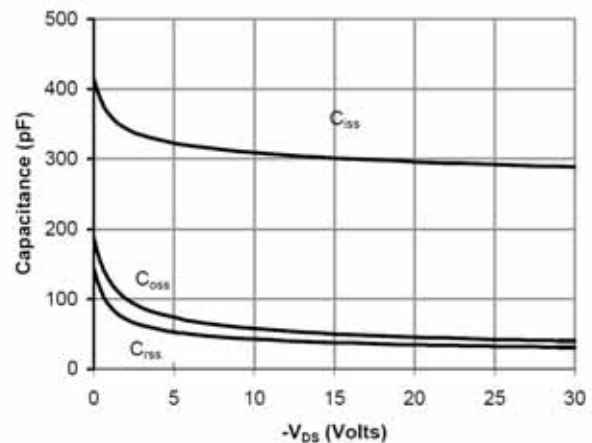


Figure 8: Capacitance Characteristics

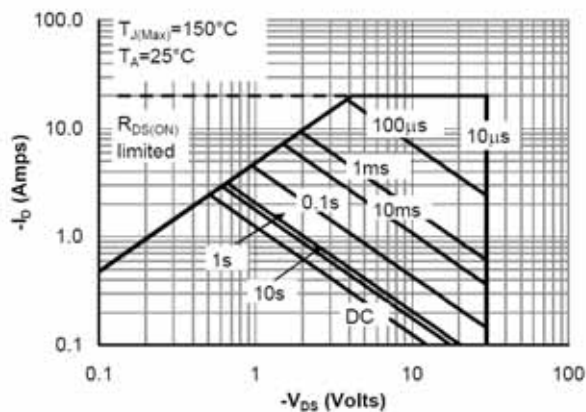


Figure 9: Maximum Forward Biased Safe Operating Area (Note E)

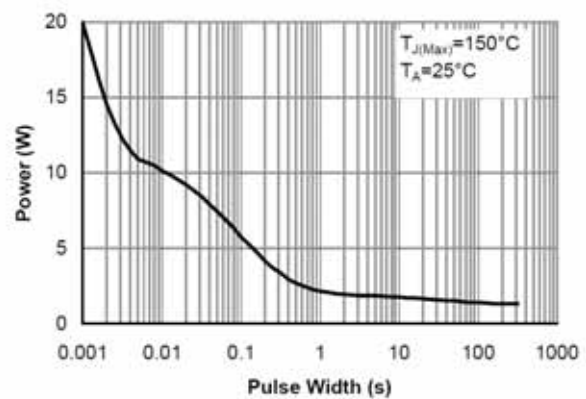


Figure 10: Single Pulse Power Rating Junction-to-Ambient (Note E)

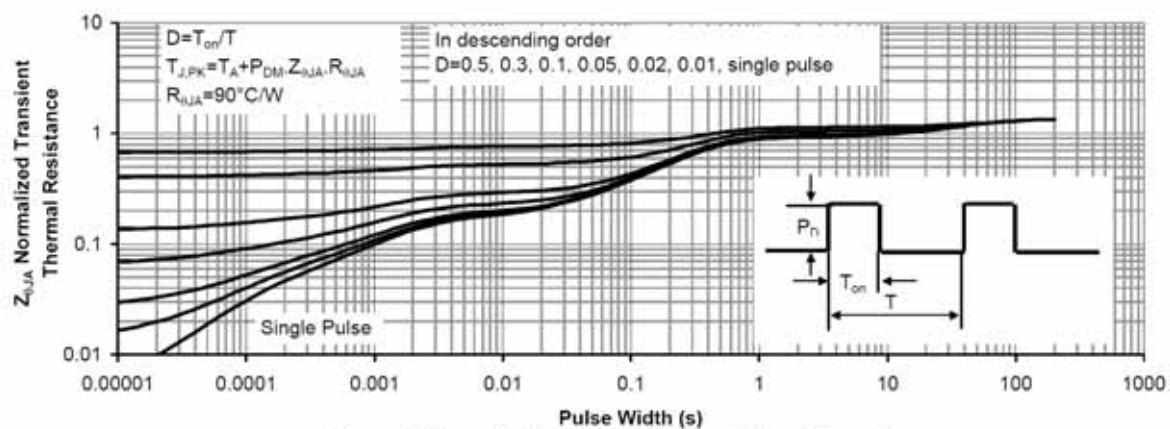
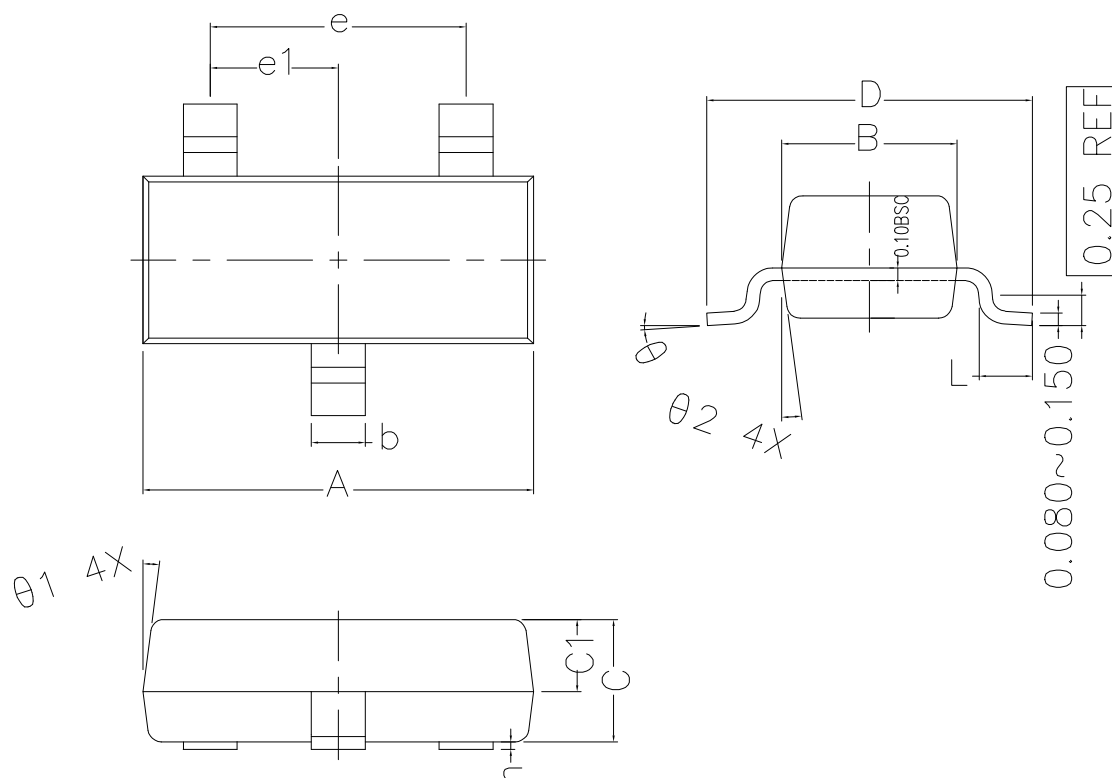


Figure 11: Normalized Maximum Transient Thermal Impedance



SOT-23 Package Outline Dimensions (Units: mm)



COMMON DIMENSIONS (UNITS OF MEASURE IS mm)			
	MIN	NORMAL	MAX
A	2.800	2.900	3.000
B	1.200	1.300	1.400
C	0.900	1.000	1.100
C1	0.500	0.550	0.600
D	2.250	2.400	2.550
L	0.300	0.400	0.500
h	0.010	0.050	0.100
b	0.300	0.400	0.500
e	1.90 TYPE		
e1	0.95 TYPE		
θ_1	7° TYPE		
θ_2	7° TYPE		
θ	0° ~ 7°		