

PT8810

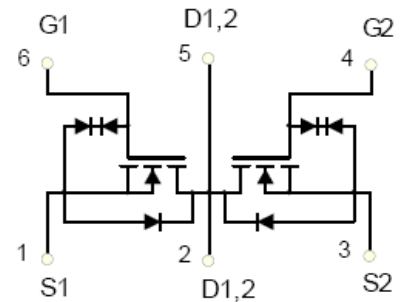
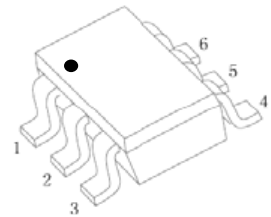
Dual N-Channel MOSFET

DESCRIPTION

The PT8810 uses advanced trench technology to provide excellent $R_{DS(ON)}$ and low gate charge. It is ESD protected. This device is suitable for use as a uni-directional or bi-directional load switch, facilitated by its common-drain configuration.

$V_{(BR)DSS}$	$R_{DS(on)MAX}$	I_D
20V	22m Ω @4.5V	7A
	26m Ω @2.5V	
	35m Ω @1.8V	

SOT-23-6L



MAXIMUM RATINGS ($T_a=25^{\circ}C$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Drain-Source Voltage	V_{DS}	20	V
Gate-Source Voltage	V_{GS}	± 12	V
Continuous Drain Current	I_D	7	A
Pulsed Drain Current	I_{DM}^*	30	A
Thermal Resistance from Junction to Ambient	$R_{\theta JA}^{**}$	208.3	$^{\circ}C/W$
Junction Temperature	T_j	150	$^{\circ}C$
Storage Temperature	T_{stg}	-55~+150	$^{\circ}C$
Lead Temperature for Soldering Purposes(1/8" from case for 10 s)	T_L	260	$^{\circ}C$

*Repetitive rating: Pulse width limited by junction temperature.

** Surface mounted on FR4 board using 1 square inch pad size, 1oz single-side copper.

$T_a=25^\circ\text{C}$ unless otherwise specified

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
STATIC PARAMETERS						
Drain-source breakdown voltage	$V_{(BR)DSS}$	$V_{GS} = 0V, I_D = 250\mu A$	20			V
Zero gate voltage drain current	I_{DSS}	$V_{DS} = 16V, V_{GS} = 0V$			1	μA
Gate-body leakage current	I_{GSS}	$V_{GS} = \pm 4.5V, V_{DS} = 0V$			± 1	μA
		$V_{GS} = \pm 8V, V_{DS} = 0V$			± 10	μA
Gate threshold voltage (note 1)	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu A$	0.4	0.77	1	V
Drain-source on-resistance (note 1)	$R_{DS(on)}$	$V_{GS} = 4.5V, I_D = 6.6A$		16	22	m Ω
		$V_{GS} = 2.5V, I_D = 5.5A$		20	26	m Ω
		$V_{GS} = 1.8V, I_D = 5A$		28	35	m Ω
Forward transconductance (note 1)	g_{FS}	$V_{DS} = 5V, I_D = 7A$	9			S
Diode forward voltage (note 1)	V_{SD}	$I_S = 1A, V_{GS} = 0V$			1	V
DYNAMIC PARAMETERS (note 2)						
Input Capacitance	C_{iss}	$V_{DS} = 10V, V_{GS} = 0V, f = 1MHz$		1150		pF
Output Capacitance	C_{oss}			185		pF
Reverse Transfer Capacitance	C_{rss}			145		pF
Total gate charge	Q_g	$V_{DS} = 10V, V_{GS} = 4.5V, I_D = 7A$		15		nC
Gate-source charge	Q_{gs}			0.8		nC
Gate-drain charge	Q_{gd}			3.2		nC
SWITCHING PARAMETERS (note 2)						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = 5V, V_{DD} = 10V,$ $R_L = 1.35\Omega, R_{GEN} = 3\Omega$		6		ns
Turn-on rise time	t_r			13		ns
Turn-off delay time	$t_{d(off)}$			52		ns
Turn-off fall time	t_f			16		ns

Notes :

1. Pulse Test : Pulse width $\leq 300\mu s$, duty cycle $\leq 0.5\%$.
2. Guaranteed by design, not subject to production testing.

Typical Characteristics

