

**Features**

- $V_{DS}$  -20V
- $I_D$  -1.4A
- $R_{DS(ON)}$ ( at  $V_{GS}=2.5V$ ) <140m $\Omega$
- $R_{DS(ON)}$ ( at  $V_{GS}=4.5V$ ) <100m $\Omega$

**Applications**

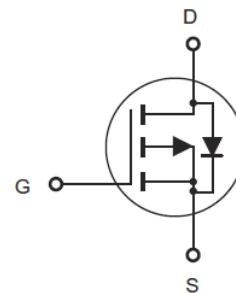
- Battery protection
- Load switch
- Power management

**Ordering Information**

Part Number	Qty per Reel	Reel Size
TPCJ2101	3000	7"



SOT323



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

Parameter	Symbol	Value	Unit
Drain-source voltage	$V_{DS}$	-20	V
Gate-source voltage	$V_{GS}$	$\pm 8$	V
Continuous drain current	$I_D$	-1.4	A
Pulsed drain current ( $t_p=10\mu\text{s}$ )	$I_{DM}$	-3.0	
Power dissipation	$P_D$	0.29	W
Thermal resistance from junction to ambient	$R_{\theta JA}$	431	$^\circ\text{C/W}$
Junction temperature range	$T_J$	150	$^\circ\text{C}$
Storage temperature range	$T_{STG}$	-50 ~ +150	$^\circ\text{C}$

**Electrical Characteristics** ( $T_A=25^\circ\text{C}$  unless otherwise specified)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
<b>OFF CHARACTERISTICS</b>						
Drain-source breakdown voltage	$V_{DSS}$	$V_{GS} = 0V, I_D = -250\mu A$	-20			V
Gate-source leakage	$I_{GSS}$	$V_{DS} = 0V, V_{GS} = \pm 8V$			$\pm 100$	nA
Zero gate voltage drain current	$I_{DSS}$	$V_{DS} = -20V, V_{GS} = 0V$			-1	$\mu A$
<b>OFF CHARACTERISTICS (note 1)</b>						
Gate-source threshold voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = -250\mu A$	-0.45	-0.7		V
Drain-source on-state resistance	$R_{DS(on)}$	$V_{GS} = -4.5V, I_D = -1.0A$			100	m $\Omega$
		$V_{GS} = -2.5V, I_D = -0.5A$			140	
		$V_{GS} = -1.8V, I_D = -0.3A$			210	
<b>CHARGE AND CAPACITANCES (note 3)</b>						
Input capacitance	$C_{iss}$	$V_{DS} = -8.0V, V_{GS} = 0V,$ $f = 1MHz$		640		pF
Output capacitance	$C_{oss}$			120		
Reverse transfer capacitance	$C_{rss}$			82		
<b>SWITCHING CHARACTERISTICS (note 2,3)</b>						
Turn-on delay time	$t_{d(on)}$	$V_{GS} = -4.5V, V_{DD} = -4.0V$ $I_D = -1.0A, R_g = 6.2\Omega$		6.2		nS
Rise time	$t_r$			15		
Turn-off delay time	$t_{d(off)}$			26		
Fall time	$t_f$			18		
<b>DRAIN-SOURCE BODY DIODE CHARACTERISTICS</b>						
Forward Diode Voltage	$V_{SD}$	$V_{GS} = 0V, I_S = -0.3A$		-0.62	-1.2	V

### Outline Drawing - SOT323

