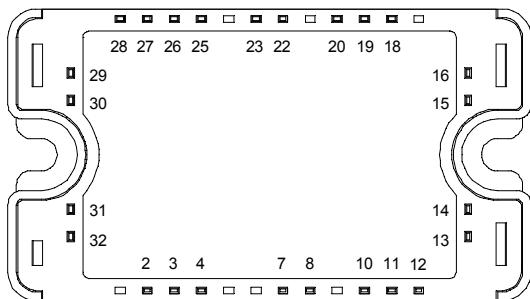
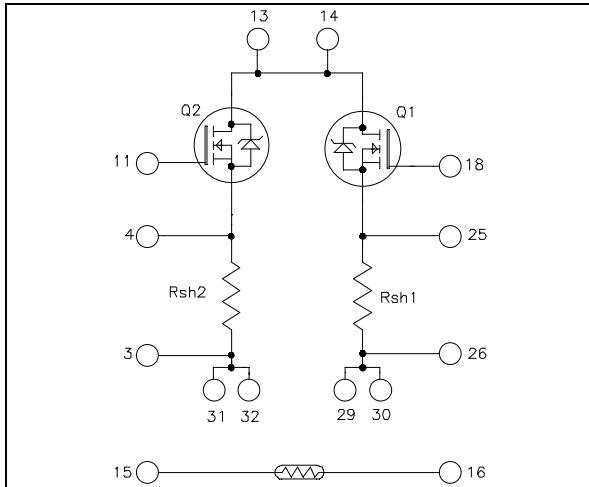


**Linear MOSFET
Power Module**

$V_{DSS} = 1000V$
 $R_{DSon} = 600m\Omega$ typ @ $T_j = 25^\circ C$
 $I_D = 20A$ @ $T_c = 25^\circ C$



Pins 13/14 ; 29/30 ; 31/32 must be shorted together

Absolute maximum ratings (per leg)

Symbol	Parameter	Max ratings	Unit
V_{DSS}	Drain - Source Breakdown Voltage	1000	V
I_D	Continuous Drain Current	$T_c = 25^\circ C$	20
		$T_c = 80^\circ C$	14
I_{DM}	Pulsed Drain current	74	
V_{GS}	Gate - Source Voltage	± 30	V
R_{DSon}	Drain - Source ON Resistance	720	$m\Omega$
P_D	Maximum Power Dissipation ①	$T_c = 25^\circ C$	520
			W

① In saturation mode

 **CAUTION:** These Devices are sensitive to Electrostatic Discharge. Proper Handling Procedures Should Be Followed. See application note APT0502 on www.microsemi.com

All ratings @ $T_j = 25^\circ\text{C}$ unless otherwise specified

Electrical Characteristics (per leg)

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
I_{DSS}	Zero Gate Voltage Drain Current	$V_{DS} = 1000\text{V}$; $V_{GS} = 0\text{V}$	$T_j = 25^\circ\text{C}$			250
		$V_{DS} = 800\text{V}$; $V_{GS} = 0\text{V}$	$T_j = 125^\circ\text{C}$			1000
$R_{DS(on)}$	Drain – Source on Resistance	$V_{GS} = 10\text{V}$, $I_D = 10\text{A}$		600	720	$\text{m}\Omega$
$V_{GS(th)}$	Gate Threshold Voltage	$V_{GS} = V_{DS}$, $I_D = 2.5\text{mA}$	2		4	V
I_{GSS}	Gate – Source Leakage Current	$V_{GS} = \pm 30\text{ V}$			± 100	nA

Dynamic Characteristics (per leg)

Symbol	Characteristic	Test Conditions	Min	Typ	Max	Unit
C_{iss}	Input Capacitance	$V_{GS} = 0\text{V}$ $V_{DS} = 25\text{V}$ $f = 1\text{MHz}$		6000		pF
C_{oss}	Output Capacitance			775		
C_{rss}	Reverse Transfer Capacitance			285		

Shunt Electrical Characteristics (per leg)

Symbol	Characteristic	Min	Typ	Max	Unit
R_{sh}	Resistance value			20	$\text{m}\Omega$
T_{sh}	Tolerance			2	%
P_{sh}	Load capacity	$T_C=25^\circ\text{C}$ $T_C=80^\circ\text{C}$		20	W
				10	
I_{sh}	Current capacity	$T_C=25^\circ\text{C}$ $T_C=80^\circ\text{C}$		31	A
				22	

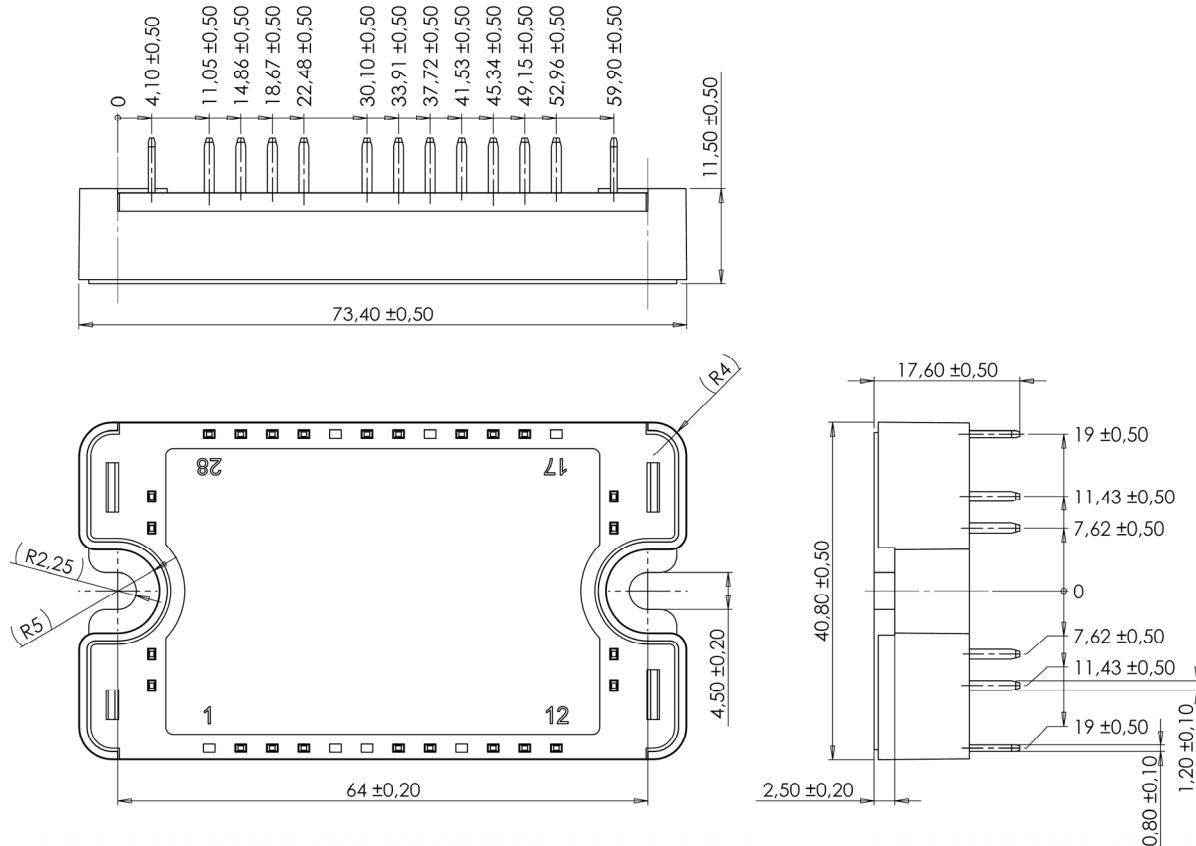
Temperature sensor PTC

Symbol	Characteristic	Min	Typ	Max	Unit
R_{25}	Resistance @ 25°C	1980		2020	Ω
R_{100}/R_{25}	Resistance ratio	Tamb=100°C & 25°C	1.676	1.696	1.716
R_{-55}/R_{25}	Resistance ratio	Tamb=-55°C & 25°C	0.48	0.49	0.50
B	Temperature coefficient		7900		ppm/K

Thermal and package characteristics

Symbol	Characteristic	Min	Typ	Max	Unit
R_{thJC}	Junction to Case Thermal Resistance	MOSFET (per leg)		0.24	$^\circ\text{C}/\text{W}$
V_{ISOL}	RMS Isolation Voltage, any terminal to case t=1 min, 50/60Hz	4000			V
T_j	Operating junction temperature range	-40		150	$^\circ\text{C}$
T_{STG}	Storage Temperature Range	-40		125	
T_c	Operating Case Temperature	-40		100	
Torque	Mounting torque	To heatsink	M4	2	3
Wt	Package Weight			110	g

SP3 Package outline (dimensions in mm)



See application note 1901 - Mounting Instructions for SP3 Power Modules on www.microsemi.com

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