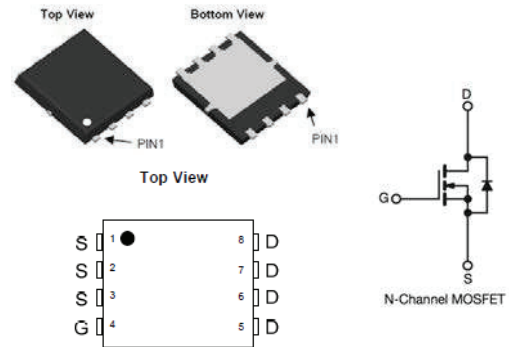


**N-Channel Enhancement Mode Power MOSFET****PRIMARY CHARACTERISTICS**

BV _{DSS}	R _{DS(on)} MAX	I _D
150V	65mΩ@V _{GS} =10V	22A
	72mΩ@V _{GS} =6V	

PR-PAK PACKAGE**GENERAL DESCRIPTION**

- DC/DC power supplies
- Industrial motor drives

MECHANICAL DATA

- Case : Molded plastic,PR-PAK
- Polarity : Shown above
- Terminals :Plated terminals, solderable per MIL-STD-750,Method 2026
- Epoxy : UL94-V0 rated flame retardant

Absolute Maximum Ratings @T_A=25°C unless otherwise noted

Parameter		Symbol	Ratings	Unit
Drain-Source Voltage		V _{DSS}	150	V
Gate-Source Voltage		V _{GSS}	±25	V
Drain Current (Continuous) *AC	T _C =25°C	I _D	22	A
	T _C =70°C		17.6	
Drain Current (Pulse) *B		I _{DM}	88	A
Power Dissipation	T _C =25°C	P _D	69.4	W
Operating Temperature/ Storage Temperature		T _J /T _{STG}	-55~150	°C

Thermal Resistance Ratings

Parameter		Symbol	Typical	Maximum	Unit
Maximum Junction-to-Ambient	t ≤ 10 s	R _{thJA}	19	24	°C/W
	Steady State	R _{thJA}	52	65	
Maximum Junction-to-Case (Drain)	Steady State	R _{thJC}	1.5	1.8	



N-Channel Enhancement Mode Power MOSFET

Electrical Characteristics @T_A=25°C unless otherwise noted

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Static						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	V _{GS} = 0V, I _D = 250μA	150	--	--	V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 150 V, V _{GS} = 0V	--	--	1	μA
Gate Threshold Voltage	V _{GS(TH)}	V _{GS} = V _{DS} , I _{DS} = 250μA	2	2.9	4	V
Gate Leakage Current	I _{GSS}	V _{GS} = ±25V, V _{DS} =0V	--	--	±100	nA
Drain-Source On-state Resistance	R _{DS(on)}	V _{GS} = 10V, I _D = 10A	--	49.5	65	mΩ
	R _{DS(on)}	V _{GS} = 6V, I _D = 10A	--	55	72	mΩ
Diode Forward Voltage	V _{SD}	I _{SD} = 1A , V _{GS} =0V	--	0.74	1.2	V
Diode Forward Current *AC	I _S	T _C =25°C	--	--	22	A
Switching						
Total Gate Charge	Q _g	V _{DS} = 75V, V _{GS} = 10V, I _{DS} = 10 A	--	16.4	--	nC
Gate-Source Charge	Q _{gs}		--	6.2	--	nC
Gate-Drain Charge	Q _{gd}		--	2.7	--	nC
Turn-on Delay Time	t _{d (on)}	V _{DS} = 75V, V _{GEN} = 10V, R _G = 4.5Ω, R _L = 7.5Ω, I _{DS} = 10A	--	9	--	ns
Turn-on Rise Time	t _r		--	34	--	ns
Turn-off Delay Time	t _{d(off)}		--	13.6	--	ns
Turn-Off Fall Time	t _f		--	36.8	--	ns
Dynamic						
Input Capacitance	C _{iss}	V _{DS} =75V,V _{GS} =0V, f=1.0MHz	--	1041	--	pF
Output Capacitance	C _{oss}		--	67	--	pF
Reverse Transfer Capacitance	C _{rss}		--	31	--	pF

A: The value of R_{θJA} is measured with the device mounted on 1in² FR-4 board with 2oz. Copper, in a still air environment with T_A = 25°C. The value in any given application depends on the user's specific board design.

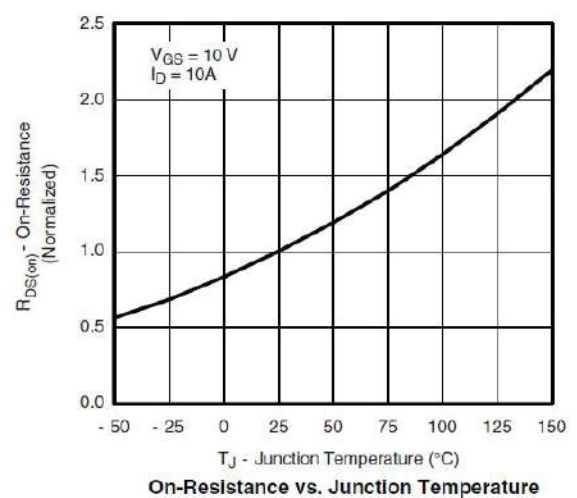
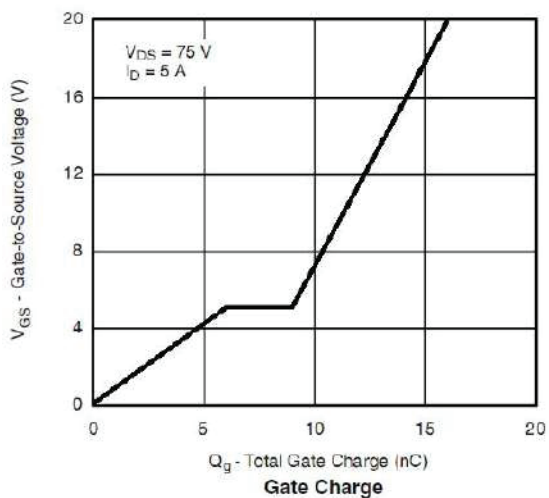
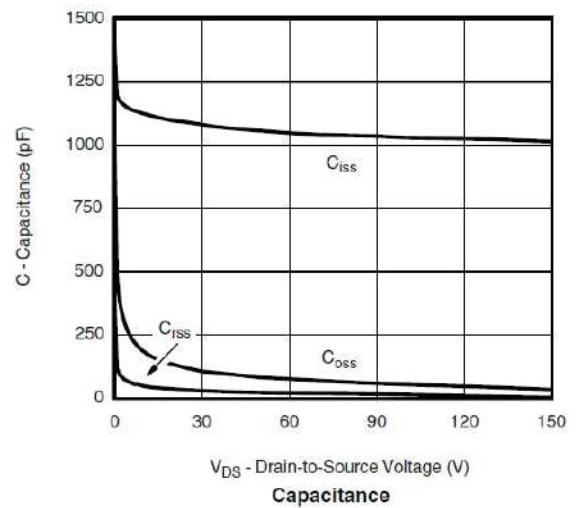
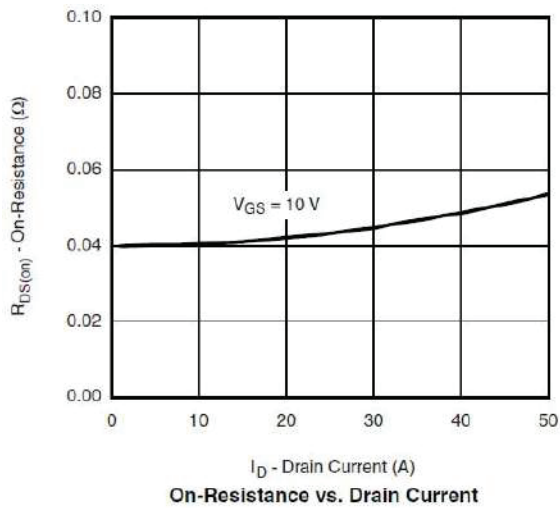
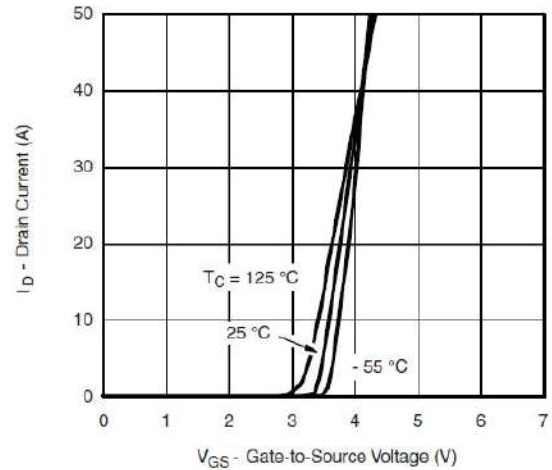
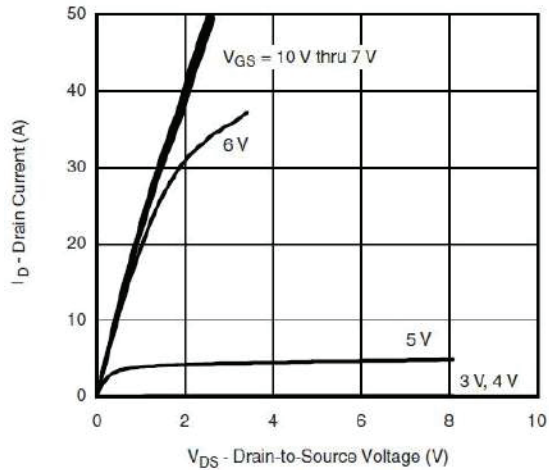
B: Repetitive rating, pulse width limited by junction temperature.

C: The current rating is based on the ≤ 10s junction to ambient thermal resistance rating.



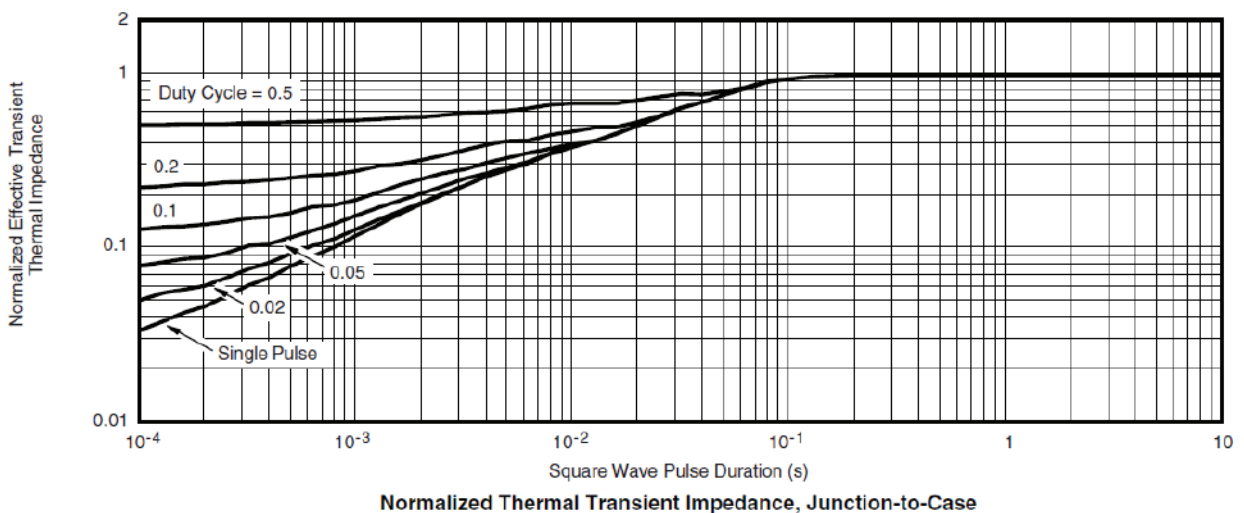
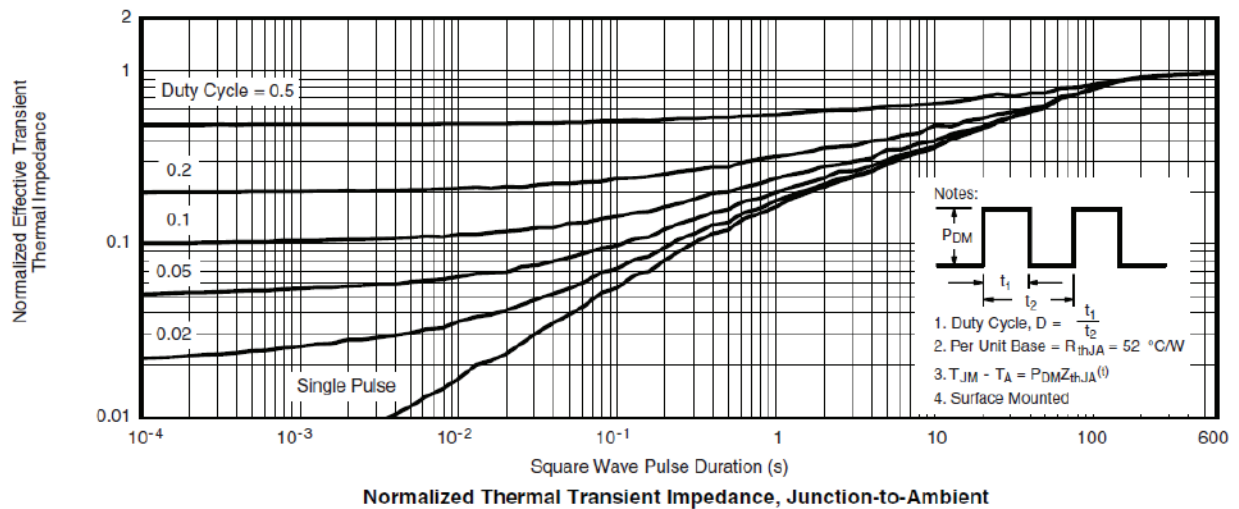
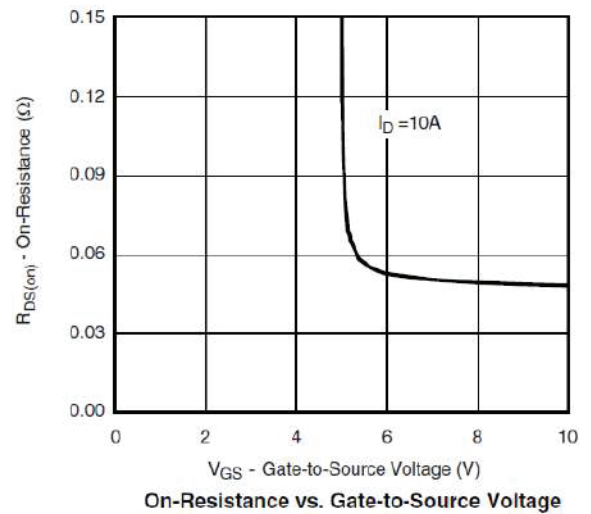
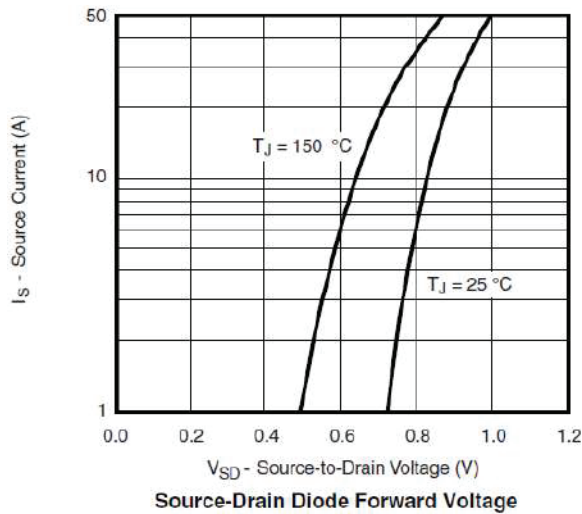
N-Channel Enhancement Mode Power MOSFET

Typical Performance Characteristics (($T_J = 25\text{ }^{\circ}\text{C}$, unless otherwise noted))



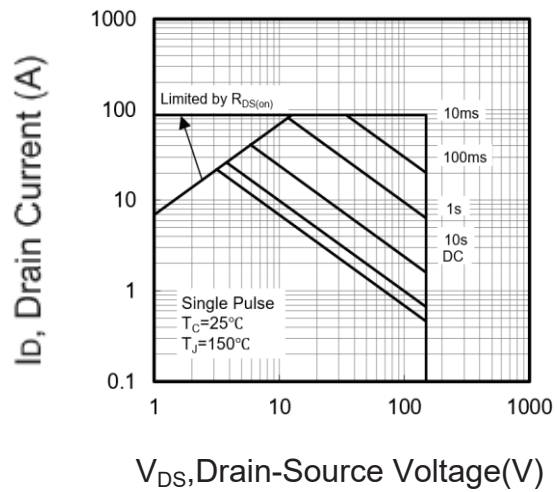


N-Channel Enhancement Mode Power MOSFET





N-Channel Enhancement Mode Power MOSFET

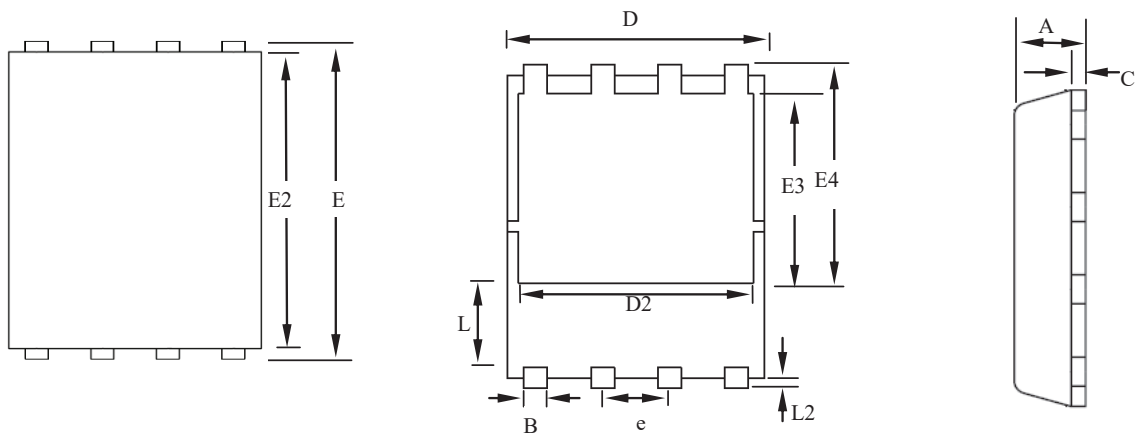


Maximum Safe Operating Area



Outline Drawing

PR-PAK



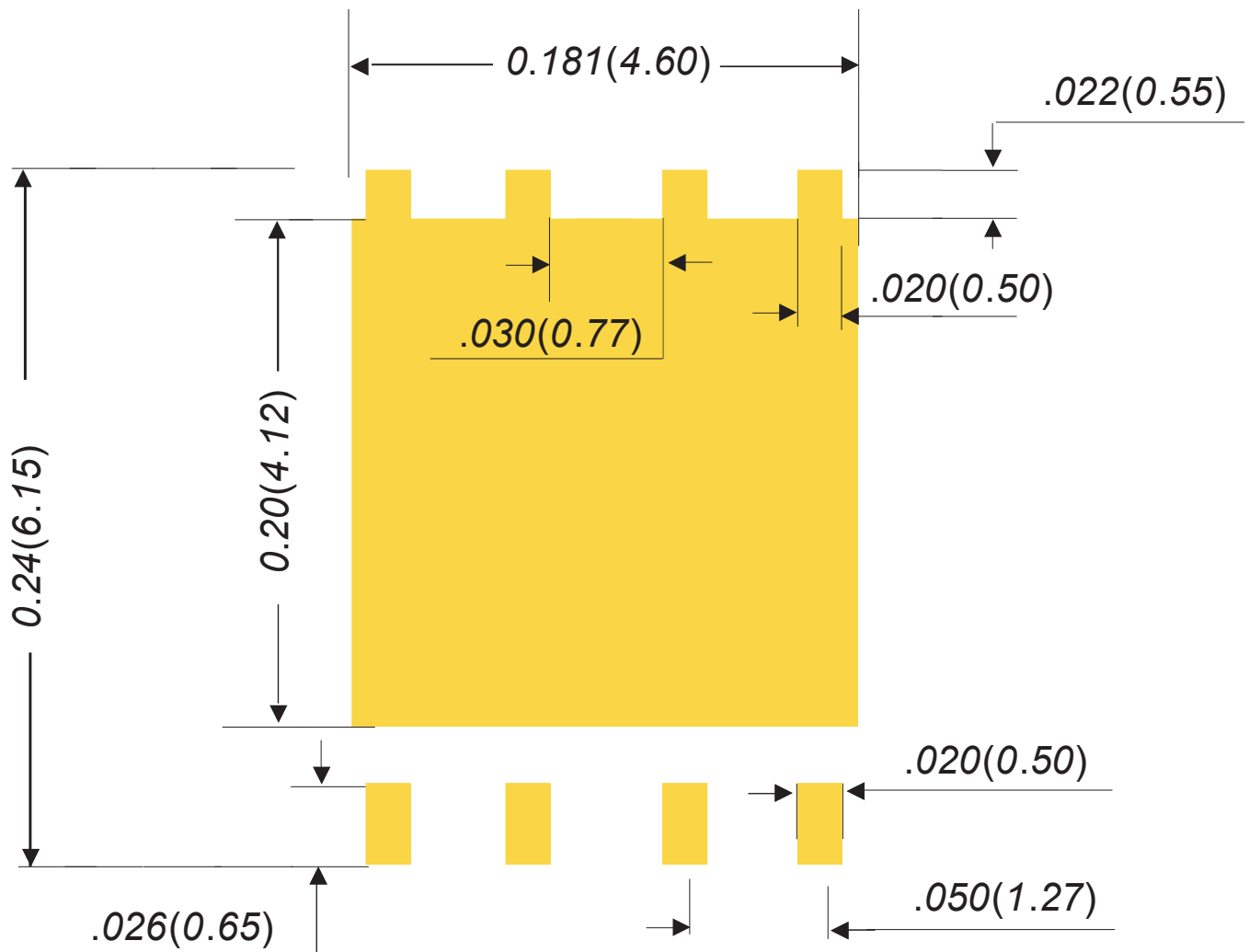
SYMBOLS	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	--	1.20	0.031	--	0.047
B	0.30	--	0.51	0.012	--	0.020
C	0.15	--	0.35	0.006	--	0.014
D	4.80	--	5.30	0.189	--	0.209
D2	3.61	--	4.35	0.142	--	0.171
E	5.90	--	6.35	0.232	--	0.250
E2	5.42	--	5.90	0.213	--	0.232
E3	3.23	--	3.90	0.127	--	0.154
E4	3.69	--	4.55	0.145		0.179
L	0.61	--	1.80	0.024	--	0.071
L2	0.05	--	0.36	0.002	--	0.014
e	--	1.27	--	--	0.050	--

Rev.A



Suggested Soldering Pad Layout

PR-PAK



Dimensions in inches and (millimeters)

RevB

**Ordering Information:**

Device PN	Marking ⁽⁴⁾	Packing
SPR150N22-T ⁽¹⁾ H ⁽²⁾ -WS ⁽³⁾	S30N15	Tape&Reel: 5 Kpcs/Reel

Note: (1) Packing code, Tape & Reel Packing

(2) Packing code suffix "G" for RoHS product ; Packing code Suffix "H" for halogen free product.
All materials and products supplied comply with the U.S. Toxic Substances Control Act statement, PBT Chemicals.

(3) Willas brand abbreviation, Label Type does not display

(4) There may be additional marking, which relates to the lot trace code information (data code and vendor code), the logo or the environmental category on the device

*****Disclaimer*****

WILLAS reserves the right to make changes without notice to any product specification herein, to make corrections, modifications, enhancements or other changes. WILLAS or anyone on its behalf assumes no responsibility or liability for any errors or inaccuracies. Data sheet specifications and its information contained are intended to provide a product description only. "Typical" parameters which may be included on WILLAS data sheets and/ or specifications can and do vary in different applications and actual performance may vary over time. WILLAS does not assume any liability arising out of the application or use of any product or circuit.

This is the preliminary specification. WILLAS products are not designed, intended or authorized for use in medical, life-saving implant or other applications intended for life-sustaining or other related applications where a failure or malfunction of component or circuitry may directly or indirectly cause injury or threaten a life without expressed written approval of WILLAS. Customers using or selling WILLAS components for use in such applications do so at their own risk and shall agree to fully indemnify WILLAS Inc and its subsidiaries harmless against all claims, damages and expenditures.