

**Features**

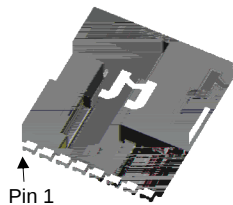
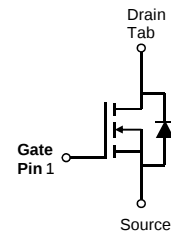
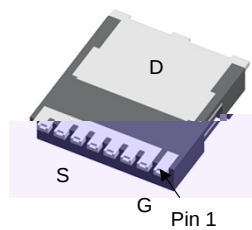
- Ultra-low $R_{DS(ON)}$
- Low Gate Charge
- 100% UIS Tested, 100% R_g Tested
- Pb-free Lead Plating
- Halogen-free and RoHS-compliant

Product Summary

	Value	Unit
	150	V
	3.2	V
	263	A
	3.3	m Ω

Applications

- Power Management in Telecom., Industrial Automation, CE
- Current Switching in DC/DC & AC/DC (SR) Sub-systems
- Motor Driving in Power Tool, E-vehicle, Robotics

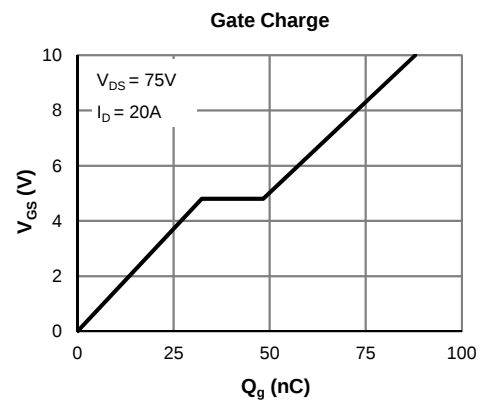
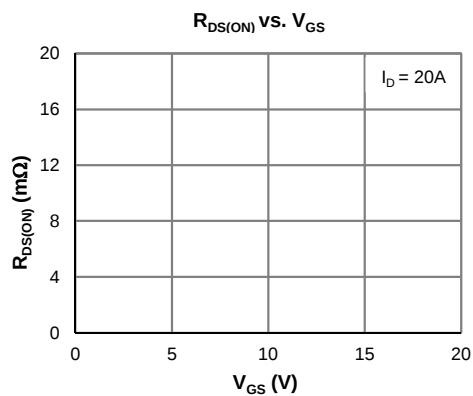
PowerJE[®]10x12 Top**PowerJE[®]10x12 Bottom**

	Package	# of Pins	Marking	MSL	T _J (°C)	Media	Quantity (pcs)
JMSH1504ATL-13	PowerJE [®] 10x12 ⁽¹⁾	8	SH1504A	1	-55 to 175	13-inch Reel	2000

Note 1: PowerJE[®] is a registered trademark of JieJie Micro., its package outline is compatible to that of TO-LeadLess (TOLL).

Absolute Maximum Ratings (@ T_A = 25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
	V _{DS}		V
	V _{GS}		V
	ρ	263	
		186	
	T _C = 100°C		
Pulsed Drain Current ⁽³⁾	I _{DM}	817	A
Avalanche Current ⁽⁴⁾	I _{AS}	49	A
Avalanche Energy ⁽⁴⁾	E _{AS}	1201	mJ
		600	
	T _C = 25°C		
Power Dissipation ⁽⁵⁾	P _D	300	W
	T _C = 100°C		
Junction & Storage Temperature Range	T _J STG	-55 to 175	°C



Electrical Characteristics (@ T_J = 25°C unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	V _{(BR)DSS}	I _D = 250μA, V _{GS} = 0V	150			V
Zero Gate Voltage Drain Current	I _{DSS}	V _{DS} = 120V, V _{GS} = 0V T _J = 55°C			1.0	μ
Gate-Body Leakage Current	I _{GSS}	V _{DS} = 0V, V _{GS} = ±20V			±100	nA
Gate Threshold Voltage	V _{GS(th)}	V _{DS} = V _{GS} , I _D = 250μA	2.5	3.2	4.5	V
Static Drain-Source ON-Resistance	R _{DS(on)}			3.3	4.2	mΩ
Forward Transconductance	g _{FS}	V _{DS} = 5V, I _D = 20A		65		S
Diode Forward Voltage	V _{SD}	I _S = 1A, V _{GS} = 0V		0.71	1.0	V
Diode Continuous Current	I _S				600	A

	C _{iss}			6540		pF
	C _{oss}			772		pF
	C _{rss}			6.7		pF
Gate Resistance	R _g	V _{GS} = 0V, V _{DS} = 0V, f = 1MHz		2.4		Ω

Total Gate Charge (@ V _{GS} = 10V)	Q _g			88		nC
Total Gate Charge (@ V _{GS} = 6.0V)	Q _g	V _{DS} = 0 to 10V		57		nC
Gate Source Charge	Q _{gs}	V _{DS} = 75V, I _D = 20A		32		nC
Gate Drain Charge	Q _{gd}			16		nC
Turn-On DelayTime	t _{D(on)}			48		ns
Turn-On Rise Time	t _r	V _{GS} = 10V, V _{DS} = 75V, I _D = 20A, F _{sw} = 10kHz, R _g = 2.4Ω		90		ns
Turn-Off DelayTime	t _{D(off)}	R _L = 3.75Ω, R _{GEN} = 6Ω		94		ns
Turn-Off Fall Time	t _f			60		ns
Body Diode Reverse Recovery Time	t _{rr}	I _{RF} = 15A, dI _F /dt = 100A/μs		122		ns
Body Diode Reverse Recovery Charge	Q _{rr}			279		nC

	Symbol			Unit
Thermal Resistance, Junction-to-Ambient	R _{θJA}	45	55	°C/W
Thermal Resistance, Junction-to-Case	R _{θJC}		0.25	°C/W

Notes:

2. Computed continuous current assumes the condition of T_{J,Max} while the actual continuous current depends on the thermal & electro-mechanical application board design.

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Typical Electrical & Thermal Characteristics

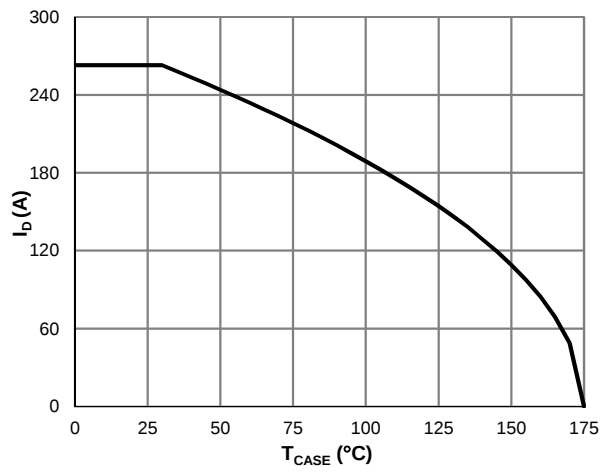


Figure 7: Current De-rating

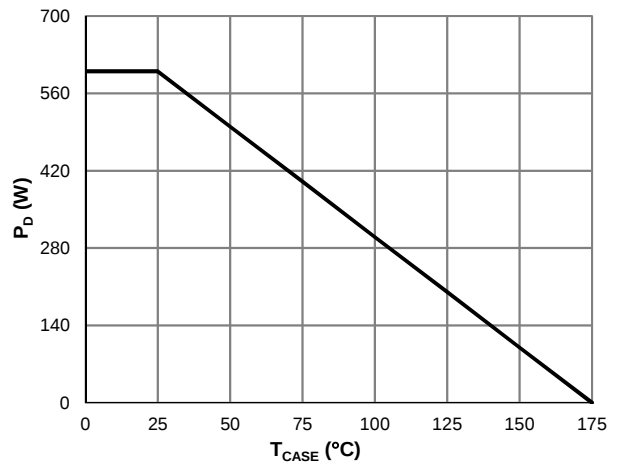


Figure 8: Power De-rating



JMSH1504ATL

PowerJE® 10x12 Package Information

DIM.	MIN.	MILLIMETER		MAX.
		NOM.		
A	2.20	2.30		2.40
b	0.70	0.80		0.90
b1	9.70	9.80		9.90
b2	0.42	0.46		0.50
c	0.40	0.50		0.60
D	10.28	10.38		10.58
D2		3.30		
E	9.70	9.90		10.10