



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

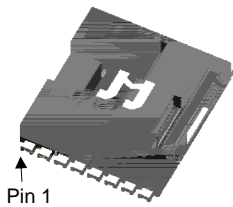
Product Summary

	Value	Unit
	150	V
	3.2	V
	263	A
	3.3	mΩ

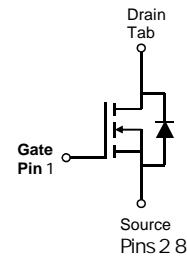
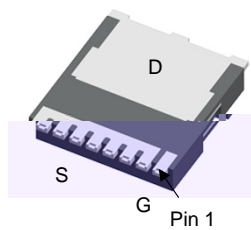
Applications

- 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

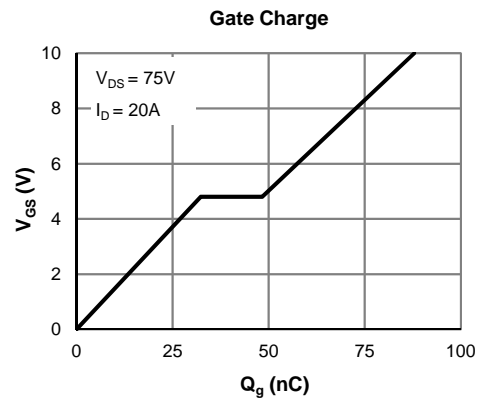
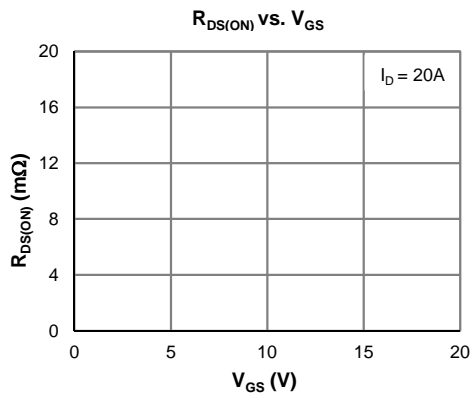


	Package	# of Pins	Marking	MSL	T _J (°C)	Media	Quantity (pcs)
JMSH1504ATL-13	PowerJE®10x12 ⁽¹⁾	8	SH1504A	1	-55 to 175	13-inch Reel	2000

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
	D	263	
		T _C 1 100°C	
Pulsed Drain Current ⁽³⁾	I _{DM}	817	A
Avalanche Current ⁽⁴⁾	I _{AS}	49	A
Avalanche Energy ⁽⁴⁾	E _{AS}	1201	mJ
Power Dissipation ⁽⁵⁾	P _D	T _C 1 25°C	600
		T _C 1 100°C	300
Junction & Storage Temperature Range	T _J , T _{STG}	-55 to 175	°C

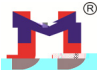


Electrical Characteristics (@ $T_J = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
STATIC PARAMETERS						
Drain-Source Breakdown Voltage	$V_{(BR)DSS}$	$I_D = 250\mu\text{A}, V_{GS} = 0\text{V}$	150			V
Zero Gate Voltage Drain Current	I_{DSS}	$V_{DS} = 120\text{V}, V_{GS} = 0\text{V}$ $T_J = 55^\circ\text{C}$			1.0	μA
Gate-Body Leakage Current	I_{GSS}	$V_{DS} = 0\text{V}, V_{GS} = \pm 20\text{V}$			± 100	nA
Gate Threshold Voltage	$V_{GS(th)}$	$V_{DS} = V_{GS}, I_D = 250\mu\text{A}$	2.5	3.2	4.5	V
Static Drain-Source ON-Resistance	$R_{DS(ON)}$			3.3	4.2	$\text{m}\Omega$
Forward Transconductance	g_{FS}	$V_{DS} = 5\text{V}, I_D = 20\text{A}$		65		S
Diode Forward Voltage	V_{SD}	$I_S = 1\text{A}, V_{GS} = 0\text{V}$		0.71	1.0	V
Diode Continuous Current	I_S				600	A
Tot						
	C_{iss}			6540		pF
	C_{oss}			772		pF
	C_{rss}			6.7		pF
Gate Resistance	R_g	$V_{GS} = 0\text{V}, V_{DS} = 0\text{V}, \dot{A} = 1\text{MHz S}$		2.4		Ω
Total Gate Charge (@ $V_{GS} = 10\text{V}$)	Q_g			88		nC
Total Gate Charge (@ $V_{GS} = 6.0\text{V}$)	Q_g	$V_{GS} = 0 \text{ to } 10\text{V}$		57		nC
Gate Source Charge	Q_{gs}	$V_{DS} = 75\text{V}, I_D = 20\text{A}$		32		nC
Gate Drain Charge	Q_{gd}			16		nC
Turn-On DelayTime	$t_{D(on)}$			48		ns
Turn-On Rise Time	t_r	$V_{GS} = 10\text{V}, V_{DS} = 75\text{V}$		90		ns
Turn-Off DelayTime	$t_{D(off)}$	$R_L = 3.75\Omega, R_{GEN} = 6\Omega$		94		ns
Turn-Off Fall Time	t_f			60		ns
Body Diode Reverse Recovery Time	t_{rr}	$I_F = 15\text{A}, di_F/dt = 100\text{A}/\mu\text{S}$		122		ns
Body Diode Reverse Recovery Charge	Q_{rr}			279		nC
Symbol						
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	45		55		$^\circ\text{C}/\text{W}$
Thermal Resistance, Junction-to-Case	$R_{\theta JC}$			0.25		$^\circ\text{C}/\text{W}$

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.



Typical Electrical & Thermal Characteristics

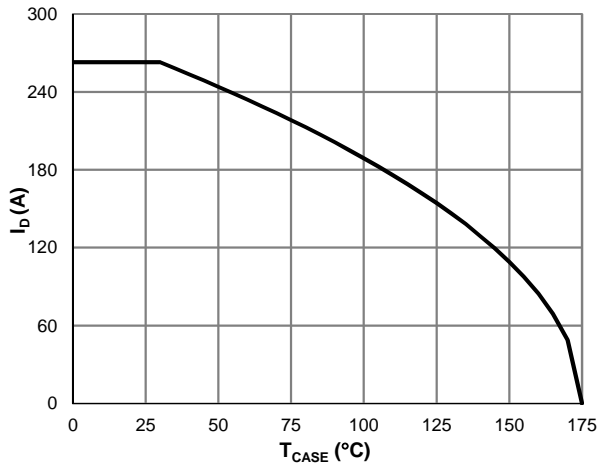


Figure 7: Current De-rating

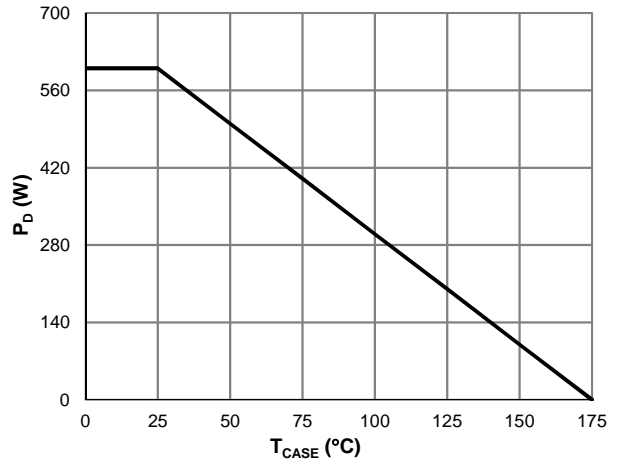


Figure 8: Power De-rating



PowerJE® 10x12 Package Information

DIM.	MIN.	MILLIMETER	
		NOM.	MAX.
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