Wide SOA MOSFET Solutions

Wide SOA MOSFETs for AI Infrastructure & Automotive



PANJIT's new MOSFET series feature an expanded safe operating area (SOA), enabling up to twice the current capability of conventional MOSFETs in linear operation. Available in DFN5060XC-8L, PDFN8080-8L, TOLL,TO-263AB, and TO-263-7L packages, these devices provide robust solutions for AI infrastructure and automotive applications, including hot-swap, airbag systems, audio amplifiers, and eFuses.

Key Features

- Wide SOA capability
- Rugged linear operation
- Low $R_{DS(on)}$ for reduced conduction losses
- AEC-Q101 qualified

Target Applications

- Hot-swap
- Audio power amplifiers
- Airbag systems
- eFuses

U series Product Portfolio

B_V	V_{GS}	$R_{DS(ON)}$ @10 V		Vth	DFN5060XC-8L	PDFN8080-8L	TOLL	TO-263AB	TO-263-7L
									
V	V	Typ. mΩ	Max. mΩ	V					
30	±20	1.1	1.38	1.6	PJQ54306UC-AU*	-	-	-	-
		0.58	0.73	1.6	PJQ54304UC-AU				
40		2.1	2.6	3	PJQ54406VUC-AU*	-	-	-	-
		1.1	1.38	3	PJQ54404VUC-AU				
100		5.8	7.2	3	PJQ54706UC-AU*	-	-	-	-
		3.8	4.8	3	PJQ54704UC-AU*	-	-	-	-
		2.7	3.3	3		PJQ64700UC-AU*		PJB160N10U*	
		1.6	2	2.8		PJQ65704U3-AU*	PJN300N10U3-AU*		
		1.3	1.65	2.8		PJQ65702U3-AU	PJN340N10U3-AU*		PJB260N10U3*
		1.15	1.4	2.8	-	-	PJN400N10U3-AU*		

-Package limitation
*Under development with specifications to be determined

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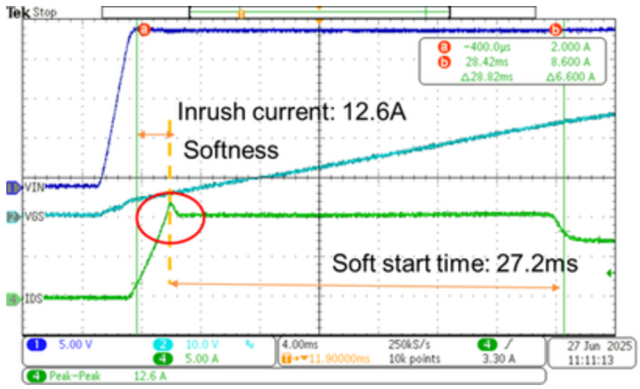
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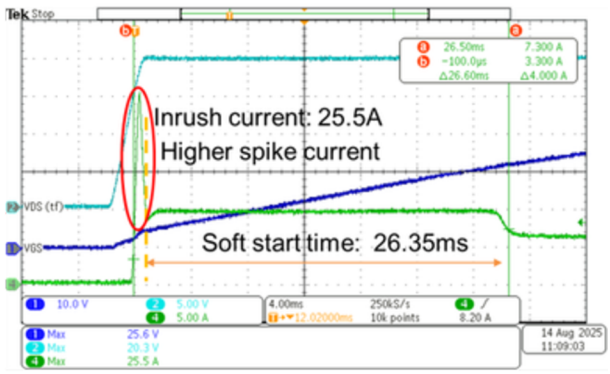
SOA Capability comparison

Automotive Airbag Applications

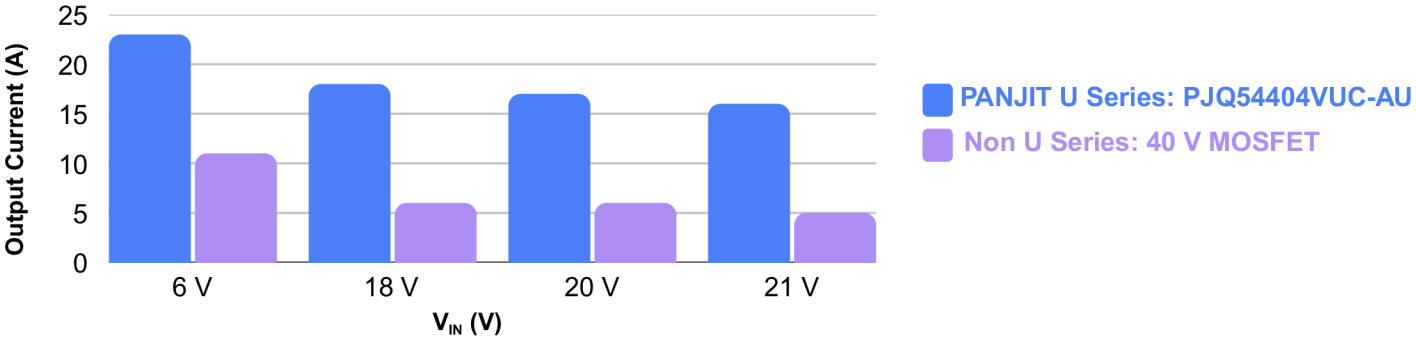
U series: PJQ54404VUC-AU



Non U series: 40 V MOSFET

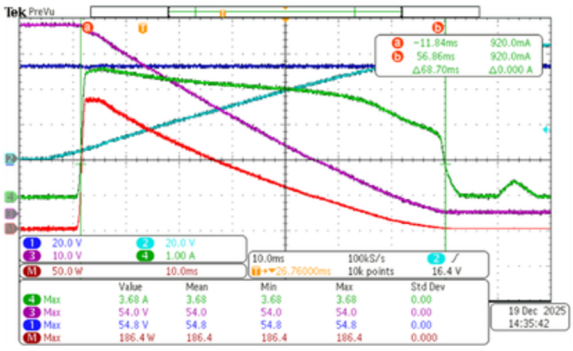


Current Limit in Linear-Mode Applications

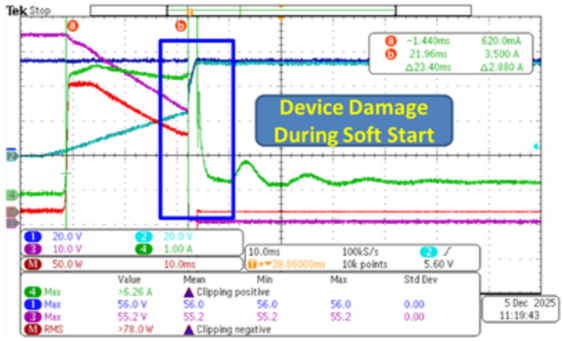


AI Hot-Swap Application

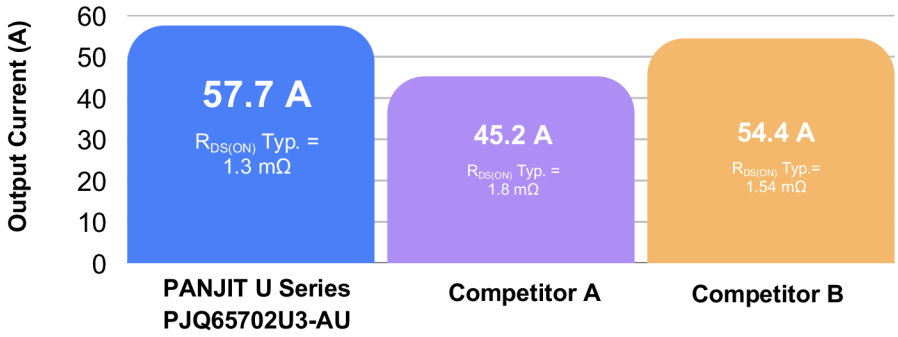
U series: PJQ65702U3-AU



Non U series: 100 V MOSFET



SOA Performance @ 50 V / 1 ms
U Series vs. Competitors



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