

### Features

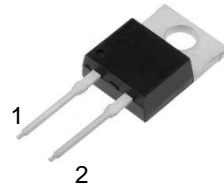
- High surge current capability
- No reverse recovery
- Positive temperature coefficient
- Benchmark switching behavior
- Halogen-free / RoHS compliant

$V_{RRM}$	=	650	V
$I_F (T_C=154^\circ\text{C})$	=	16	A
$Q_C$	=	42	nC

### Benefits

- High-speed switching
- Low heat dissipation requirements
- Reduce size and cost of the system
- High-reliability
- System efficiency improvement

### Package



TO-220-2

### Applications

- Switch mode power supply
- Solar inverter
- Power factor correction
- Uninterruptible & AUX power supplies



Part Number	Package	Marking
ASLD016065A	TO-220-2	ASLD016065A

### Maximum Ratings (T<sub>c</sub>=25°C unless otherwise noted)

Symbol	Parameter		Value	Unit
V <sub>RRM</sub>	Repetitive peak reverse voltage		650	V
I <sub>F</sub>	Continuous forward current	T <sub>c</sub> =25°C	40	A
		T <sub>c</sub> =154°C	16	A
I <sub>FSM</sub>	Non-repetitive forward surge current	T <sub>c</sub> =25°C, t <sub>p</sub> =10ms, Half sine pulse	128	A
		T <sub>c</sub> =110°C, t <sub>p</sub> =10ms, Half sine pulse	100	A
I <sub>FRM</sub>	Repetitive Peak Forward Surge Current	T <sub>c</sub> =25°C, t <sub>p</sub> =10ms, Half sine pulse	118	A
∫i <sup>2</sup> dt	i <sup>2</sup> t value	T <sub>c</sub> =25°C, t <sub>p</sub> =10ms	81	A <sup>2</sup> S
		T <sub>c</sub> =110°C, t <sub>p</sub> =10ms	50	A <sup>2</sup> S
P <sub>tot</sub>	Power Dissipation	T <sub>c</sub> =25°C	150	W
		T <sub>c</sub> =110°C	65	W
		T <sub>c</sub> =150°C	25	W
T <sub>j</sub> , T <sub>stg</sub>	Operating and Storage Temperature		-55 to +175	°C

### Electrical Characteristics (T<sub>c</sub>=25°C unless otherwise noted)

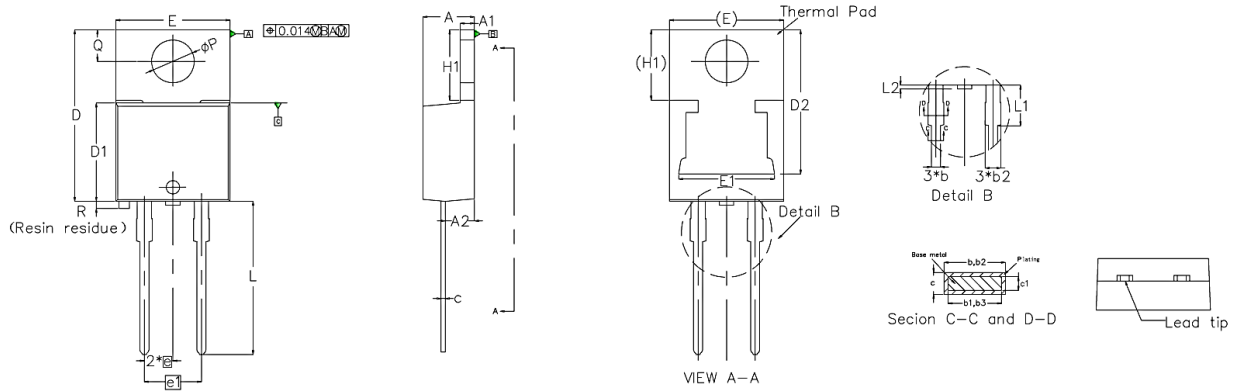
Symbol	Parameter	Test Conditions	Value			Unit
			Min.	Typ.	Max.	
V <sub>DC</sub>	DC blocking voltage		650	-	-	V
V <sub>F</sub>	Forward voltage	I <sub>F</sub> =8A	-	1.20	-	V
		I <sub>F</sub> =16A, T <sub>c</sub> =25°C	-	1.43	1.6	V
		I <sub>F</sub> =16A, T <sub>c</sub> =175°C	-	1.72	-	V
I <sub>R</sub>	Reverse current	V <sub>R</sub> =650V, T <sub>c</sub> =25°C	-	7	100	μA
		V <sub>R</sub> =650V, T <sub>c</sub> =175°C	-	15	-	μA
Q <sub>C</sub>	Total capacitive charge	V <sub>R</sub> =400V	-	42	-	nC

### Thermal Characteristics

Symbol	Parameter	Value		Unit
		Typ.	Max.	
R <sub>th(j-c)</sub>	Thermal resistance (Junction to case)	1.0	-	°C/W

### Package Dimensions

Package TO-220-2



SYMBOL	MILLIMETERS			NOTES	SYMBOL	MILLIMETERS			NOTES
	Normal	MIN.	MAX.			Normal	MIN.	MAX.	
A	4.55	4.44	4.65		E1	8.57	8.25	8.89	
A1	1.27	1.14	1.39		e	2.54	2.41	2.67	
A2	2.60	2.54	2.79		e1	5.08	4.95	5.20	
b	0.85	0.69	0.94		H1	6.20	6.09	6.40	
b1	0.83	0.38	0.97		L	13.60	13.52	14.00	
b2	1.33	1.20	1.45		L1	3.60	3.56	3.80	
b3	1.33	1.20	1.45		L2	-	0	0.35	
c	0.50	0.36	0.56		$\phi P$	3.80	3.70	3.91	
c1	0.48	0.36	0.56		Q	2.80	2.62	2.87	
D	15.25	14.95	15.32		R			0.2	
D1	8.75	8.50	8.89						
D2	12.85	12.20	13.30						
E	10.18	10.11	10.40						