

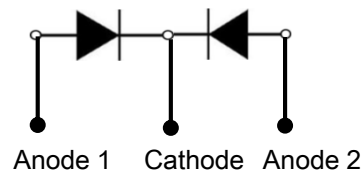
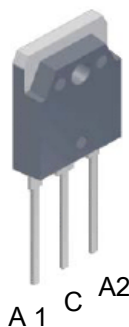
600V, 60A Fast Recovery Diode

Features

- 600V Diode Technology
- Fast Recovery
- Soft Switching
- Low Forward Voltage
- RoHS Compliant
- JEDEC Qualification
- Common Cathode

Applications

- General Rectification



Device	Package	Marking	Remark
TDAN60B60DN	TO-3PN-3L	TDAN60B60DN	RoHS

Absolute Maximum Ratings (Per Diode)

Parameter	Symbol	Value	Unit
Repetitive Peak Reverse Voltage	V_{RRM}	600	V
Reverse Blocking Voltage	V_R	600	V
Average Rectified Forward Current	$I_{F(AV)}$	30	A
Non-Repetitive Peak Surge Current 60Hz Single Half Sine Wave	I_{FSM}	300	A
Storage Temperature Range	T_{STG}	-55 ~ 150	°C

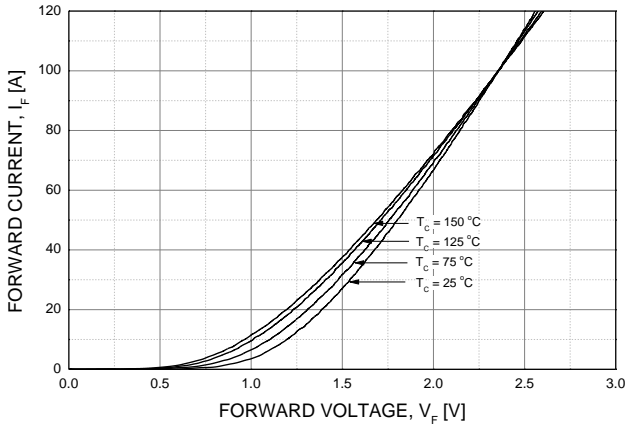
Thermal Characteristics

Parameter	Symbol	Value	Unit
Maximum Thermal Resistance, Junction-to-Case (Per Diode)	$R_{\theta JC}$	1.0	°C/W
Maximum Thermal Resistance, Junction-to-Case (Total)	$R_{\theta JC}$	0.6	°C/W

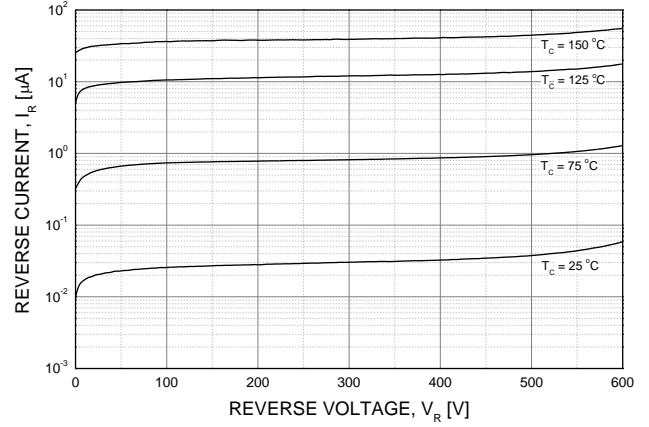
Electrical Characteristics (Per Diode) $T_C=25^\circ\text{C}$, unless otherwise noted

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
STATIC							
Forward Voltage Drop	V_F	$I_F=30\text{A}, T_C=25^\circ\text{C}$	--	1.5	2.0	V	
		$I_F=30\text{A}, T_C=150^\circ\text{C}$	--	1.4	1.9	V	
Reverse Leakage Current	I_R	$V_R = 600\text{V}$	--	--	100	μA	
DYNAMIC							
Reverse Recovery Time	t_{rr}	$V_R = 400\text{V}, I_F = 30\text{A}, di/dt=200\text{A}/\mu\text{s}$	$T_C=25^\circ\text{C}$	--	85	--	ns
			$T_C=150^\circ\text{C}$	--	190	--	
Reverse Recovery Current	I_{rr}		$T_C=25^\circ\text{C}$	--	6.5	--	A
			$T_C=150^\circ\text{C}$	--	12.5	--	
Reverse Recovery Charge	Q_{rr}		$T_C=25^\circ\text{C}$	--	350	--	nC
			$T_C=150^\circ\text{C}$	--	1600	--	

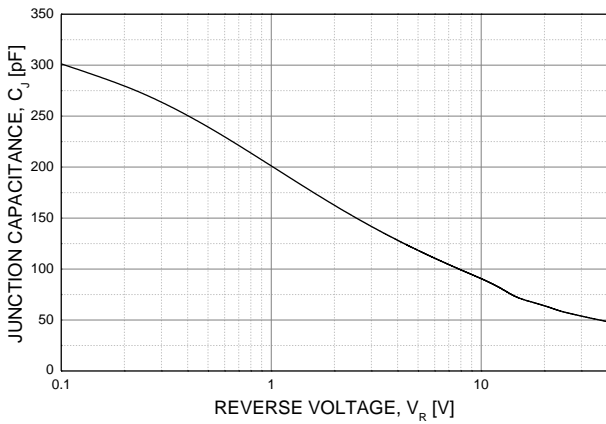
**Fig.1 Forward voltage drop vs. Forward current
(Per Diode)**



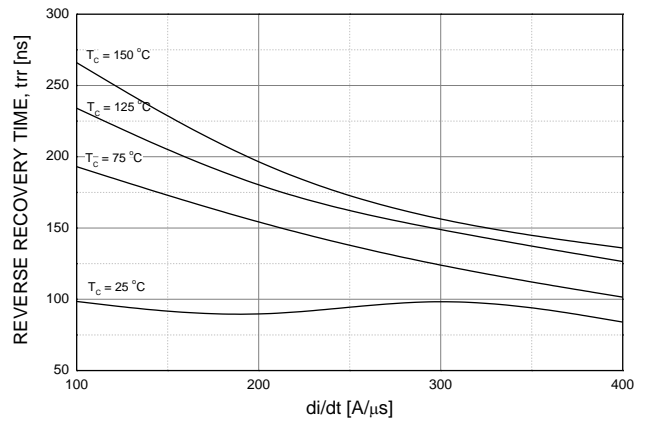
**Fig 2. Reverse voltage vs. Reverse current
(Per Diode)**



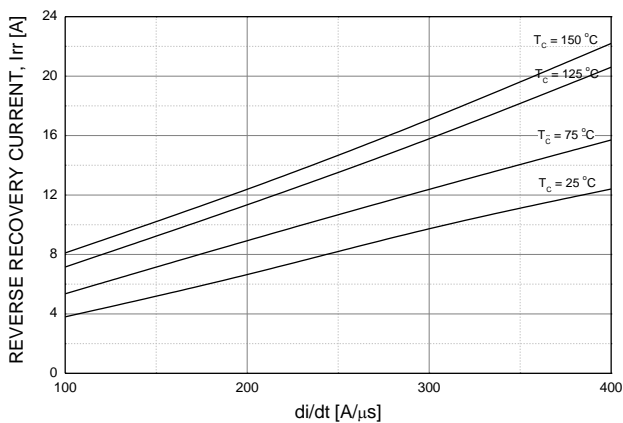
**Fig 3. Junction capacitance
(Per Diode)**



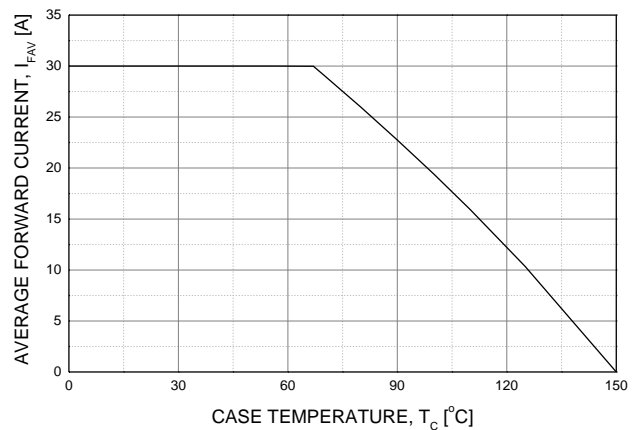
**Fig 4. Reverse recovery time vs. di/dt
(Per Diode)**



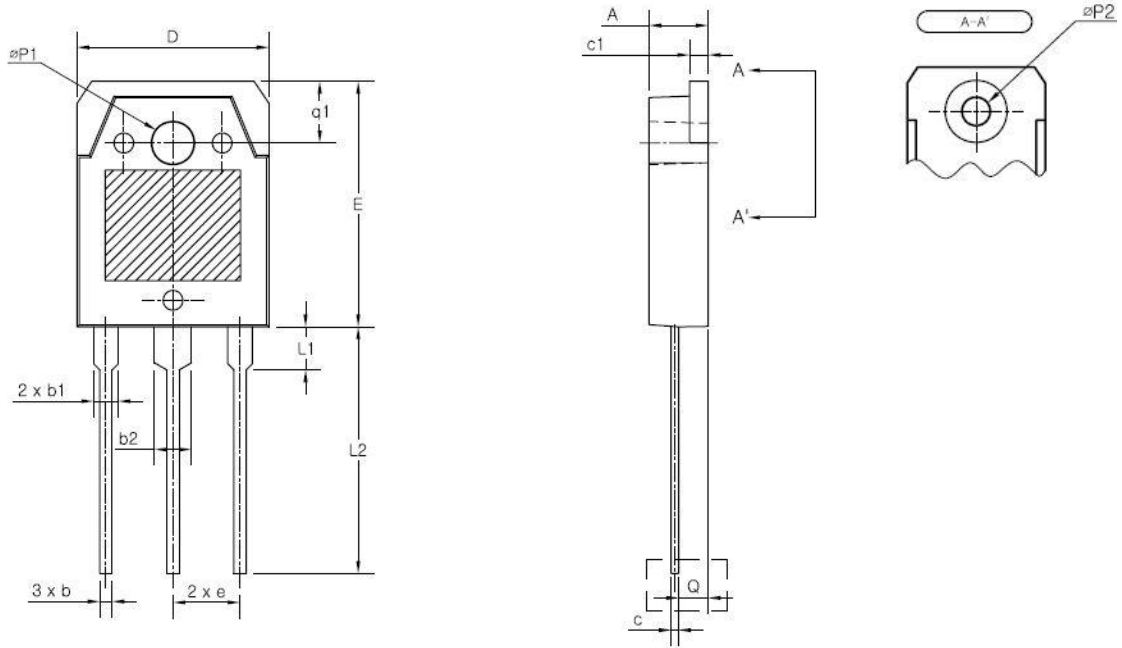
**Fig 5. Reverse recovery current vs. di/dt
(Per Diode)**



**Fig 6. Case temperature vs. Forward current
(Per Diode)**



TO-3PN MECHANICAL DATA



SYMBOL	MIN	NOM	MAX
A	4.60	4.80	5.00
b	0.80	1.00	1.20
b1	1.80	2.00	2.20
b2	2.80	3.00	3.20
c	0.55	0.60	0.75
c1	1.45	1.50	1.65
D	15.40	15.60	15.80
E	19.70	19.90	20.10
e	5.15	5.45	5.75
L1	3.30	3.50	3.70
L2	19.80	20.00	20.20
$\varnothing P1$	3.30	3.40	3.50
$\varnothing P2$	(3.20)		
Q	2.20	2.40	2.60
q1	4.80	5.00	5.20

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