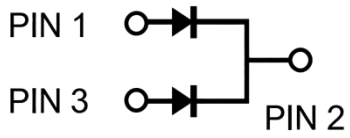
Ultrafast Recovery Rectifiers

Parameter	Value	Unit
V_{RRM}	400	V
$I_{F(AV)}$	60(2*30)	A



TO-247/PT

TO-247S/PTS

Features

- Low forward voltage drop
- High current capability
- High reliability
- High surge current capability

Applications

- Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Absolute Maximum Ratings(Ta=25℃,unless otherwise noted)

Parameter		Symbol	Value	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	400	V
Working Peak Reverse Voltage		V_{RWM}	400	V
Maximum DC Blocking Voltage		V_{DC}	400	V
Maximum Average Forward Rectified Current	Per Leg	$I_{F(AV)}$	30	A
	Total		60	
Peak Forward Surge Current,8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)		I_{FSM}	480	A
Operating Temperature Range		T_J	150	℃
Storage Temperature Range		T_{STG}	-40 to +150	℃
Typical Thermal Resistance (Note1)		$R_{\theta JC}$	2	℃/W

Note1: Thermal resistance from Junction to case per leg mounted on heat sink.

Electrical Characteristics(Per Leg) unless otherwise specified

Parameter		Symbol	Value		Unit
Forward Voltage Drop(Note2)		V_F	Typ.	Max.	V
at I_F=30A	T_A=25℃		1.20	1.40	
	T_A=125℃		1.06	-	
Maximum Reverse Current at V_R=400V	T_A=25℃	I_R	0.03	1	μA
	T_A=125℃		15	-	μA
Maximum Reverse Recovery Time at I_F=0.5A, I_R=1A		T_{rr}	-	50	ns

Note2:Pulse test: 300 μs pulse width, 1 % duty cycle

Typical Characteristics

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

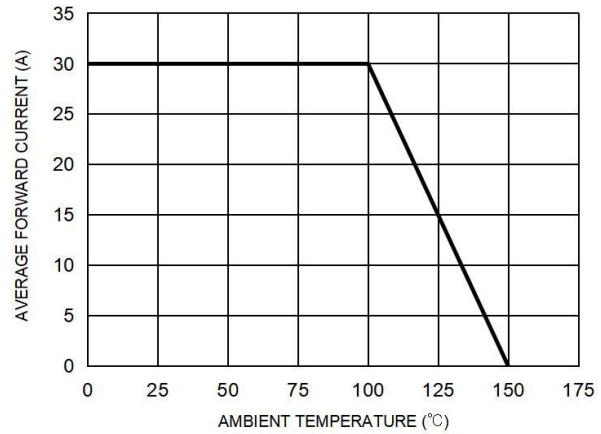


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

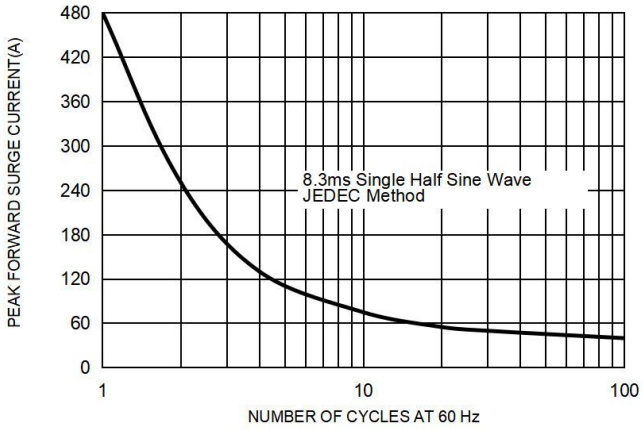


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

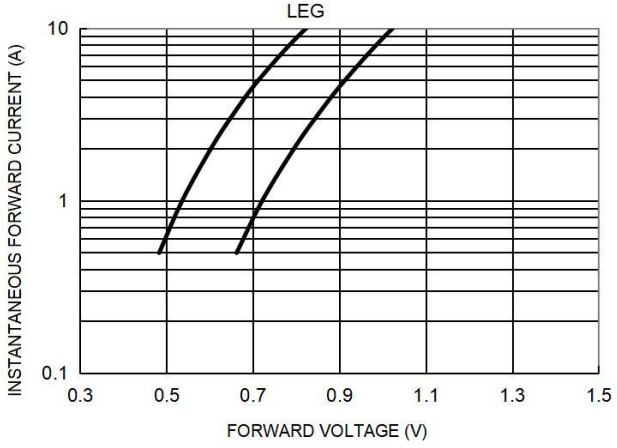
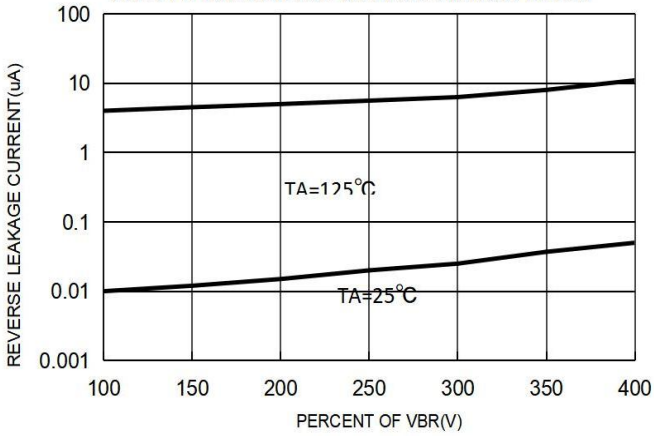


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Package Outlines

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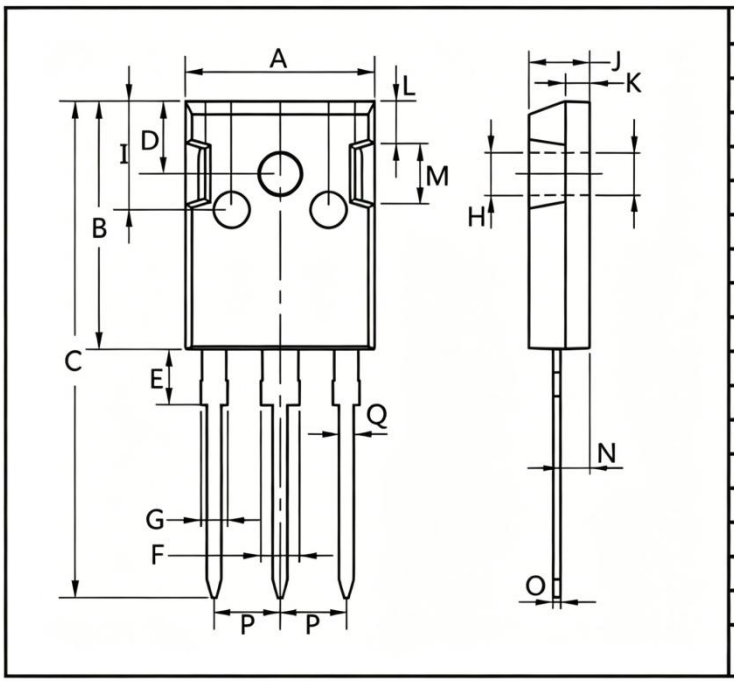

Dim.	Min.	Max.
A	15.0	15. 0
B	20.0	21.0
C	40.0	42.0
D	5.5	6.5
E	4.0	5.5
F	2.5	3.5
G	1.75	2.5
H	3.0	4.0
I	8.0	10.0
J	4.9	5.1
K	1.9	2.1
L	3.0	4.0
M	4.75	5.25
N	2.0	3.0
O	0.55	0.65
P	Typ 5.4	
Q	1.17	1.3
Dims. in mm		

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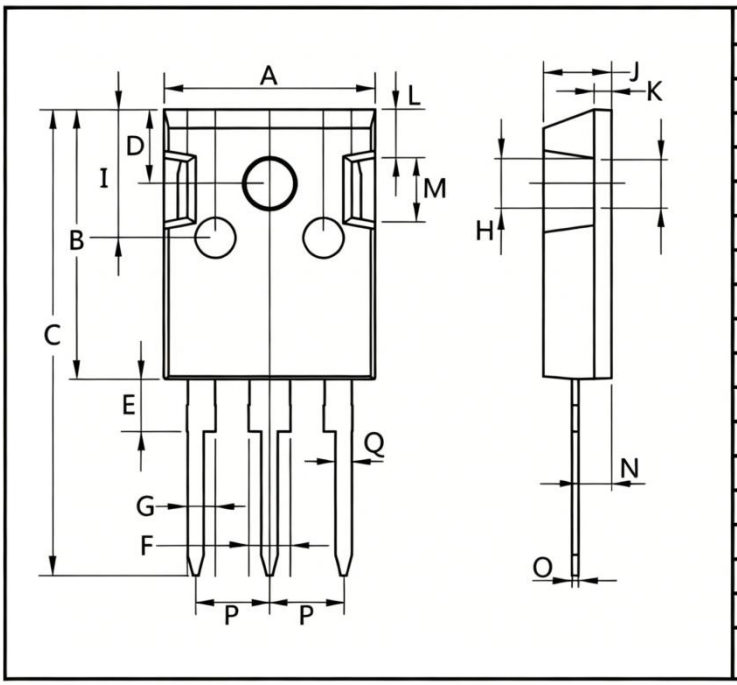

Dim.	Min.	Max.
A	15.0	16.0
B	19.5	20.5
C	33.5	35.5
D	5.0	6.0
E	3.5	4.5
F	2.5	3.5
G	1.75	2.5
H	3.0	4.0
I	9.0	11.0
J	4.9	5.1
K	1.15	1.35
L	3.0	4.0
M	4.75	5.25
N	2.0	2.5
O	0.45	0.55
P	Typ 5.4	
Q	1.17	1.3
Dims. in mm		

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