

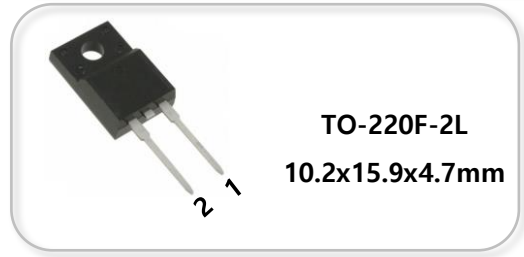


General description

Symbol	Value
V_R	Min 1200V
I_F	30A
Q_C	Typ 180nC

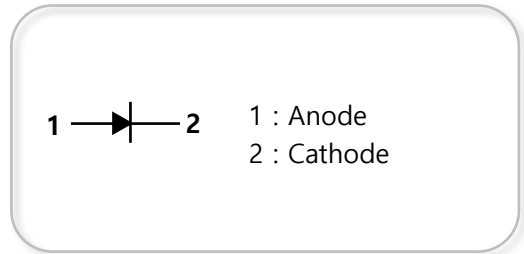


Package



Features

- 175°C Maximum operating temperature
- Negligible reverse recovery current.
- Fast switching speed



Applications

- General purpose
- Switching mode power supply
- Boot diodes in PFC at DC/DC
- Industrial motor drives
- Motor drivers
- Solar inverters



Maximum ratings ($T_C = 25^\circ\text{C}$)

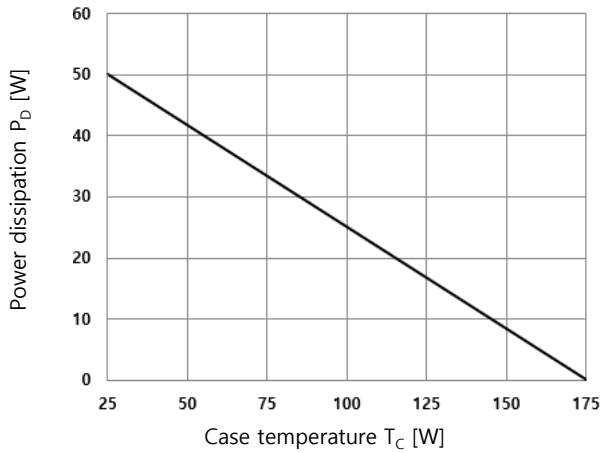
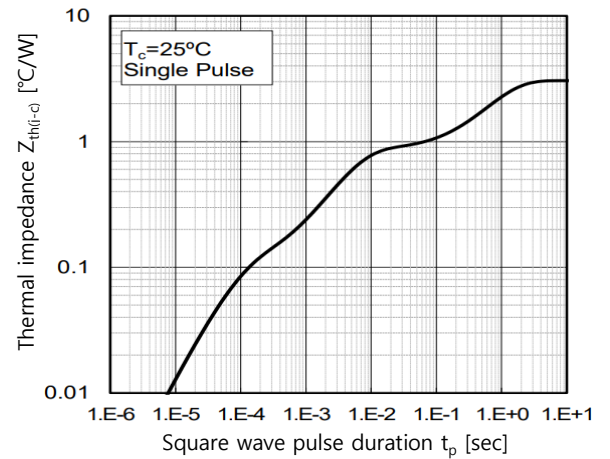
Parameter	Symbol	Test condition	Value	Units
Repetitive peak reverse voltage	V_{RRM}	-	1200	V
DC peak reverse voltage	V_R	-	1200	V
Continuous forward current	I_F	$T_C=67^\circ\text{C}$	30	A
Non-repetitive forward surge current	I_{FSM}	$T_C=25^\circ\text{C}$, $t_p=10\text{ms}$	180	A
Power dissipation	P_D	$T_C=25^\circ\text{C}$	50	W
Operating and storage temperature range	T_j, T_{stg}	-	-55 to 175	$^\circ\text{C}$


Electrical characteristics ($T_C = 25^\circ\text{C}$)

Parameter	Symbol	Test condition	Value			Units
			Min	Typ	Max	
Forward voltage	V_F	$I_F=30\text{A}, T_C=25^\circ\text{C}$	-	1.4	1.7	V
		$I_F=30\text{A}, T_C=175^\circ\text{C}$	-	1.8	-	V
Reverse current	I_R	$V_R=1200\text{V}, T_C=25^\circ\text{C}$	-	-	100	μA
		$V_R=1200\text{V}, T_C=175^\circ\text{C}$	-	-	300	μA
Total capacitive charge	Q_C	$V_R=800\text{V}$	-	180	-	nC
Total capacitance	C	$V_R=1\text{V}, f=100\text{kHz}$	-	2,017	-	pF
		$V_R=800\text{V}, f=100\text{kHz}$	-	123	-	pF

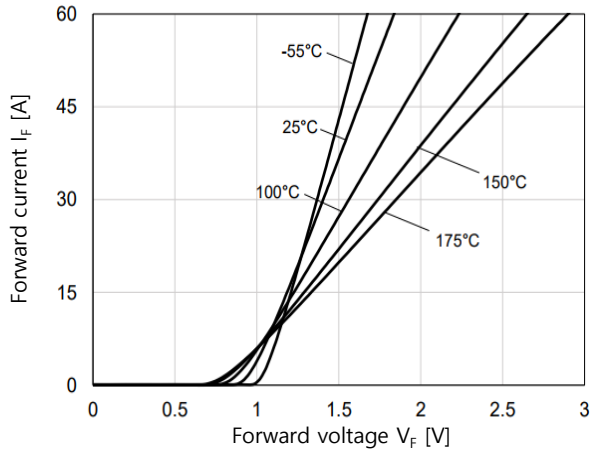

Thermal characteristics($T_C = 25^\circ\text{C}$)

Symbol	Parameter	Typ	Max	Units
$R_{th(j-c)}$	Junction to case	-	3.0	$^\circ\text{C}/\text{W}$

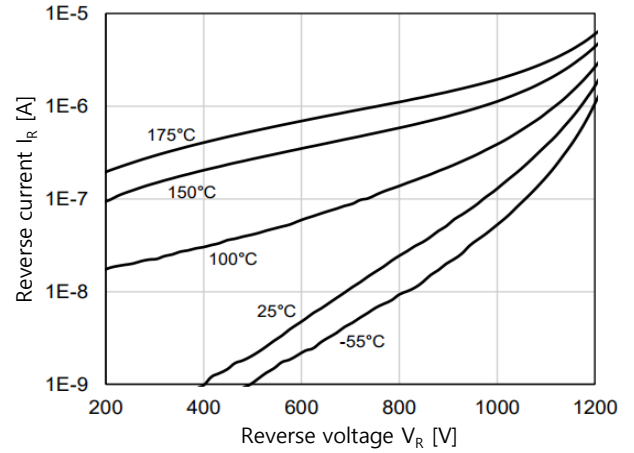
 $T_C - P_D$ Characteristics

 $t_p - Z_{th(j-c)}$ Characteristics


Typical electrical characteristics curves ($T_C = 25^\circ\text{C}$)

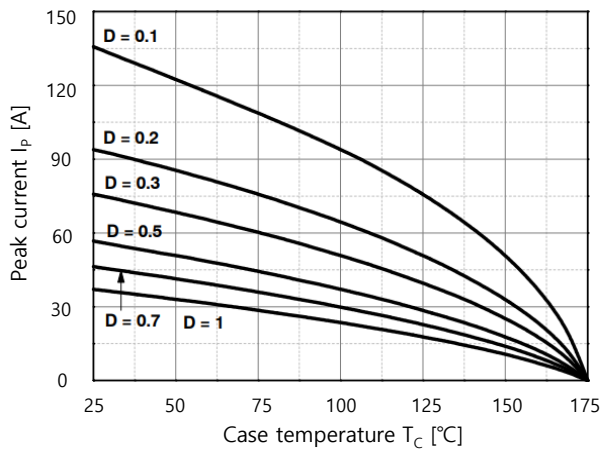
$V_F - I_F$ Characteristics



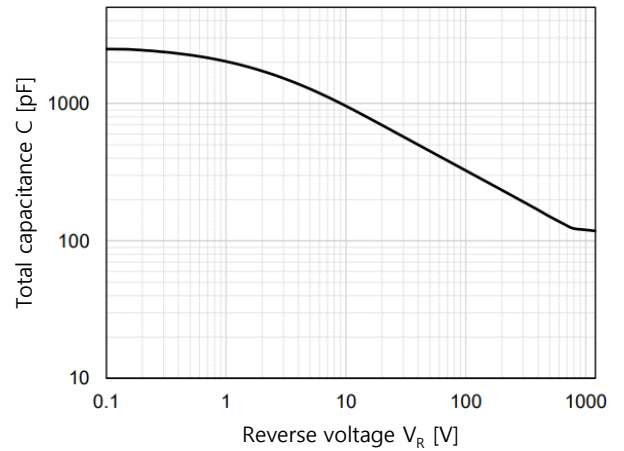
$V_R - I_R$ Characteristics



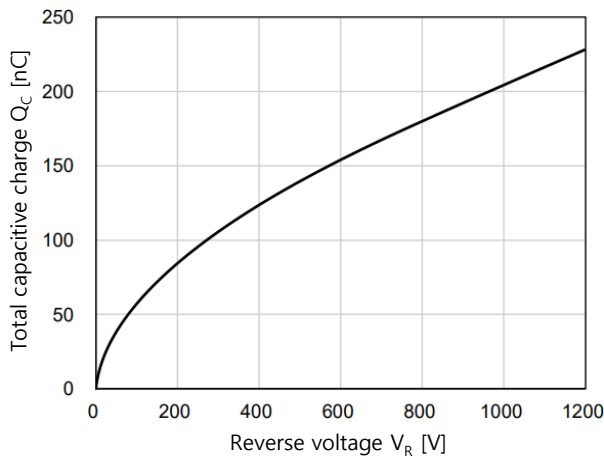
$T_C - I_p$ Characteristics



$V_R - C$ Characteristics



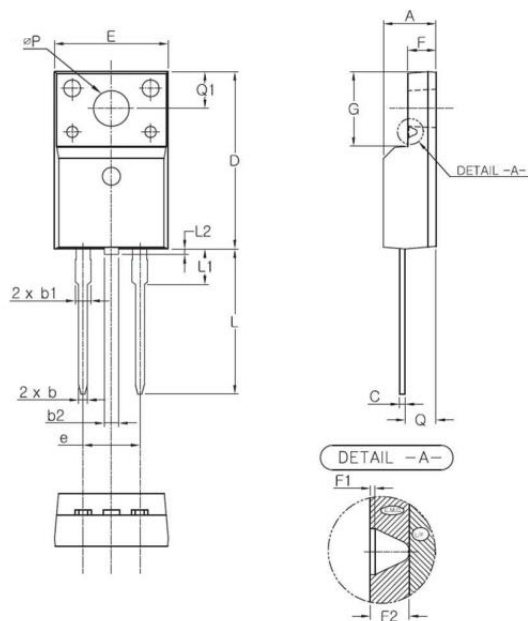
$V_R - Q_C$ Characteristics





Package dimensions(TO-220F-2L)

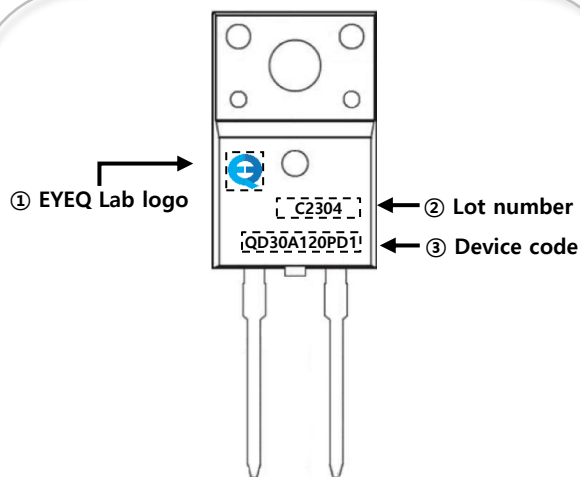
[Unit : mm]



Symbol	Min	Typ	Max
A	4.50	4.70	4.90
b	0.70	0.80	0.90
b1	1.33	1.40	1.47
b2	0.98	1.28	1.58
C	0.40	0.50	0.60
D	15.67	15.87	16.07
E	9.96	10.16	10.36
e	5.08 BSC		
F	2.34	2.54	2.74
F1	(0.10)		
F2	(0.84)		
G	6.48	6.68	6.88
L	12.78	12.98	13.18
L1	2.98	3.18	3.38
L2	-	-	0.80
Q	2.56	2.76	2.96
Q1	3.10	3.30	3.50
ΦP	3.08	3.18	3.28



Marking information



- ① Company logo
- ② Lot number : 23 – 2023 Year , 04 – 04 Week
- ③ Device code : Q – EYEQ Lab, D – Diode,
30A – 30A, 120 – 1200V

