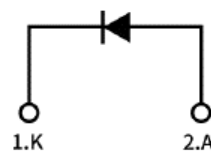


Features

- Zero Forward Recovery Voltage
- Zero Reverse Recovery Current
- Excellent Surge Current Capability
- Temperature Independent Switching
- Positive Temperature Coefficient on VF
- High Frequency Operation



TO-220-2L



Application

- Parallel Devices Without Thermal Runaway
- Power Factor Correction
- DC-AC Inverters
- DC-DC Inverters



Halogen-Free

Maximum Ratings(Ta=25°C unless otherwise noted)

Symbol	Parameter	Test condition	Value	Unit
V_{RRM}	Repetitive Peak Reverse Voltages	$T_C=25^{\circ}\text{C}$	650	V
I_F	Continuous Forward Current	$T_C=25^{\circ}\text{C}$	12	A
		$T_C=110^{\circ}\text{C}$	8	
		$T_C=154^{\circ}\text{C}$	4	
I_{FSM}	Non-Repetitive Forward Surge Current (Half Sine Pulse)	$T_C=25^{\circ}\text{C}, t_p=10\text{ms}$	32	A
		$T_C=110^{\circ}\text{C}, t_p=10\text{ms}$	27	
I_{FRM}	Repetitive Forward Surge Current, Sine Half-Wave (Freq= 0.1Hz, 50cycles)	$T_C=25^{\circ}\text{C}, t_p=10\text{ms}$	30	A
		$T_C=110^{\circ}\text{C}, t_p=10\text{ms}$	26	
E_{AS}	Single Pulse Avalanche Energy	$T_C = 25^{\circ}\text{C},$ $L = 0.5\text{mH},$ $V_{DD} = 50\text{V},$ $I_{peak} = 6\text{A}$	9	mJ
T_J, T_{stg}	Operating Junction and Storage Temperature		-55~+175	°C

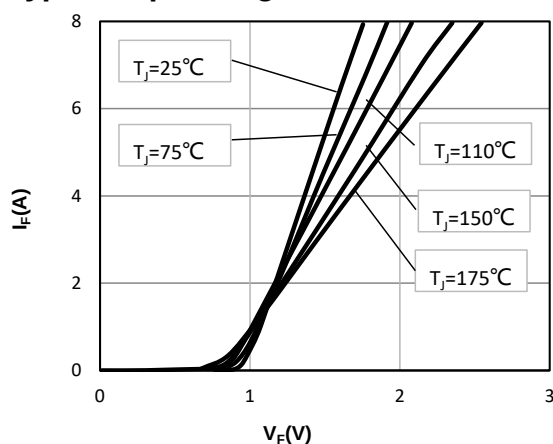
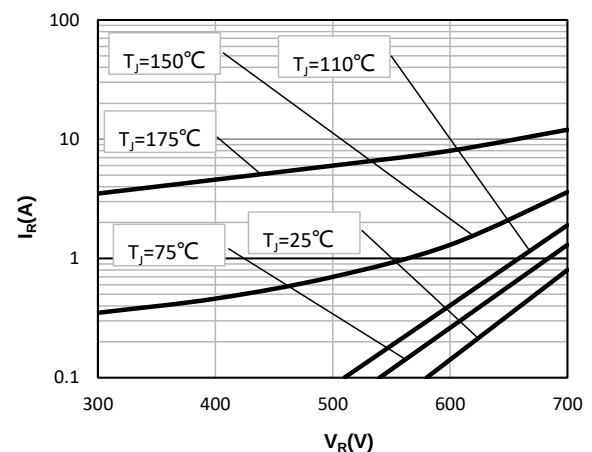
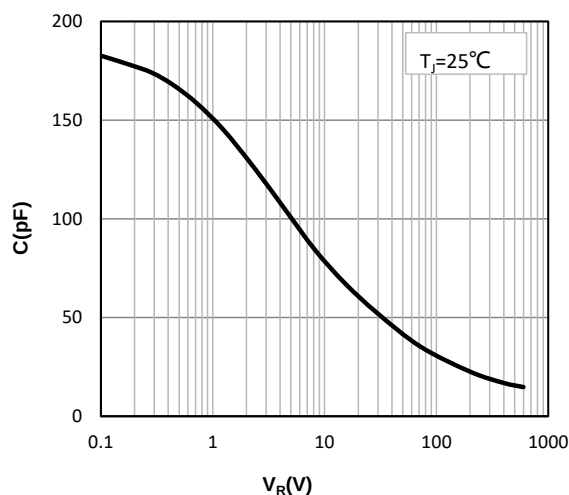
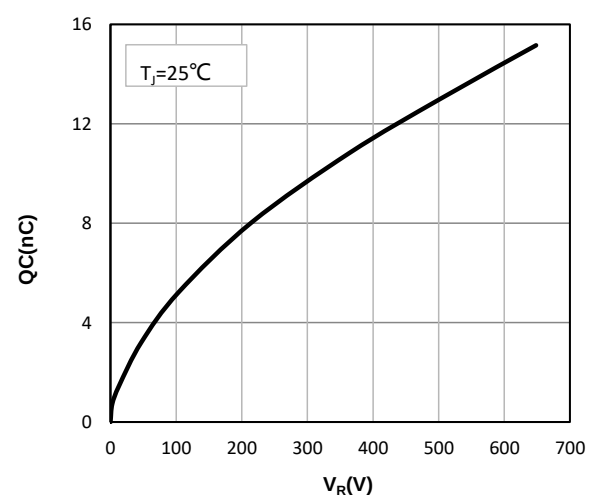
Ordering Information (Example)

Type	Package	Marking	Minimum Package(pcs)	Inner Box Quantity(pcs)	Outer Carton Quantity(pcs)	Delivery Mode
DY04C6F	TO-220-2L	DY04C6F	50	1,000	5,000	/

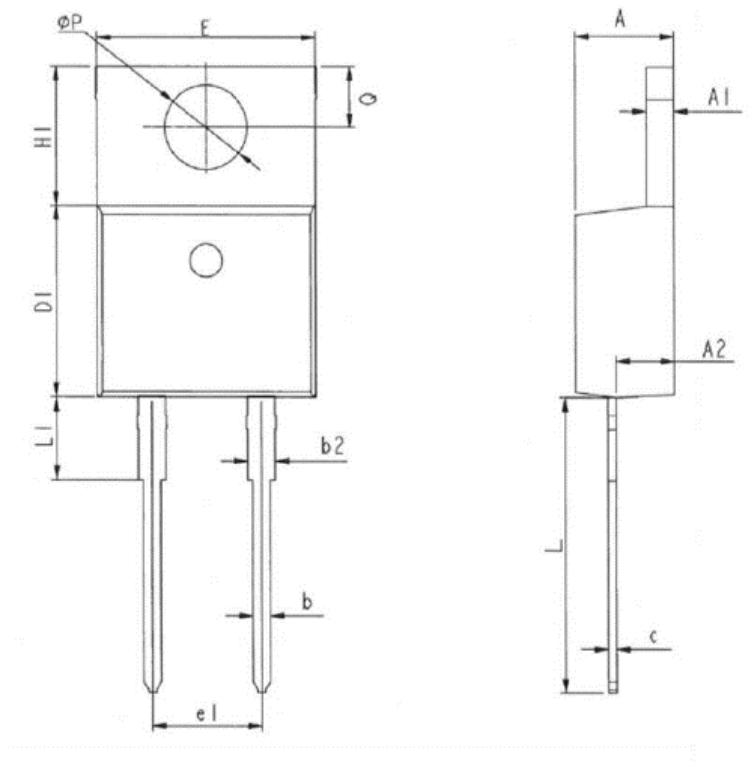
Symbol	Parameter	Value	Unit
$R_{\theta JC}$	Thermal Resistance from Junction to Case	2.7	°C/W

Electrical Characteristics($T_{VJ}=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Test conditions	Min.	Typ.	Max.	Unit
V_{DC}	DC Blocking Voltage	$I_R=100\mu\text{A}$	650	-	-	V
V_F	Forward Voltage	$I_F=4\text{A}, T_J=25^{\circ}\text{C}$	-	1.37	1.70	V
		$I_F=4\text{A}, T_J=175^{\circ}\text{C}$	-	1.66	-	
I_R	Reverse Current	$V_R=650\text{V}, T_J=25^{\circ}\text{C}$	-	0.5	20	μA
		$V_R=650\text{V}, T_J=175^{\circ}\text{C}$	-	8.5	-	
C	Total Capacitance	$V_R=1\text{V}, f=1\text{MHz}$	-	155	-	pF
		$V_R=200\text{V}, f=1\text{MHz}$	-	23	-	
		$V_R=400\text{V}, f=1\text{MHz}$	-	17	-	
E_C	Capacitance stored energy	$V_R=400\text{V}$	-	1.7	-	μJ
Q_C	Total Capacitive Charge	$V_R=400\text{V}$	-	12	-	nC

Typical Operating Characteristics

Fig1. Forward Characteristics

Fig2. Reverse Characteristics

Fig3. Capacitance vs. Reverse Voltage

Fig3. Recovery Charge vs. Reverse Voltage

TO-220-2L Package information



Symbol	Dimensions in Millimeters(mm)		Dimensions In Inches	
	Min	Max	Min	Max
A	4.370	4.770	0.172	0.188
A1	1.220	1.420	0.048	0.056
A2	2.490	2.890	0.098	0.114
b	0.760	0.910	0.030	0.036
b2	1.170	1.470	0.046	0.058
c	0.300	0.480	0.012	0.019
D1	8.500	8.900	0.335	0.350
E	9.860	10.360	0.388	0.408
e1	5.08BSC		0.2BSC	
H1	6.100	6.500	0.240	0.256
L	13.100	13.700	0.516	0.539
L1	-	4.100	-	0.162
P	3.700	3.990	0.146	0.157
Q	2.540	2.940	0.100	0.116