

Thyristors Surge Protection Device

Features

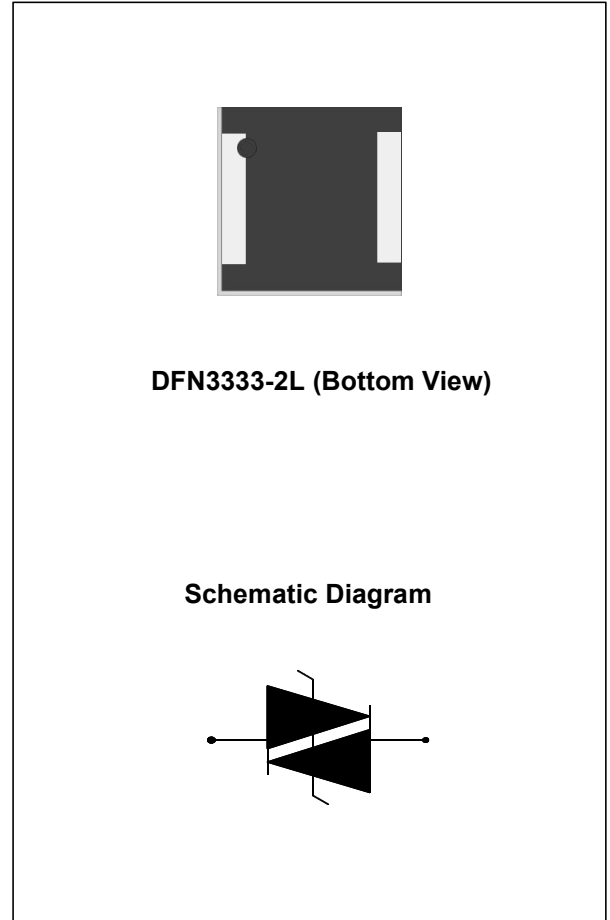
- For surface mounted applications to optimize board space.
- Low profile package.
- Bidirectional crowbar protection.
- Low leakage current.
- Low on-state voltage.
- Low capacitance.
- Solid-state silicon technology.
- Eliminates overvoltage caused by fast rising transients.

Mechanical Data

- Case: DFN3333-2L molded plastic.
- Epoxy: UL 94V-0 rate flame retardant.
- Terminals: solderable per MIL-STD-750, method 2026.
- Mounting position: Any.
- RoHS Compliant.

Circuit Diagram

- Terminal Connections: See Diagram Right

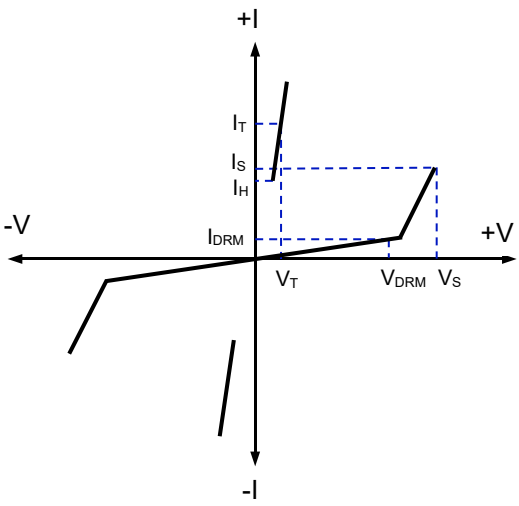


Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Minimum Non-repetitive peak impulse current	I_{PP}	10×1000μs	100
		5×320μs	150
		8×20μs	300
Non-repetitive peak pulse voltage	V_{PP}	6000	V
Operating junction temperature range	T_J	-40 to +125	°C
Storage temperature range	T_{STG}	-60 to +150	°C

Electrical Characteristics ($T_A=25^\circ\text{C}$)

Symbol	Parameter
V_{DRM}	Peak off-state voltage
I_{DRM}	Off-state current
V_s	Switching voltage
I_s	Switching current
V_T	On-state voltage
I_T	On-state current
I_H	Holding current
C_o	Off-state capacitance



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

Part Number	$V_{\text{DRM}}@I_{\text{DRM}}$		$V_s@I_s$		$V_T@I_T$		C_o	I_H
		Max.	Max.	Max.	Max.	Max.	Typ.	Min.
	V	μA	V	mA	V	A	pF	mA
P4500Q22CLRP	400	5.0	530	800	5.0	2.2	45	50

Note:

1. Switching voltage (V_s) is measured at 100KV/s.
2. Off-state capacitance (C_o) is measured at 1MHz with a 2V bias.



Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise Specified)

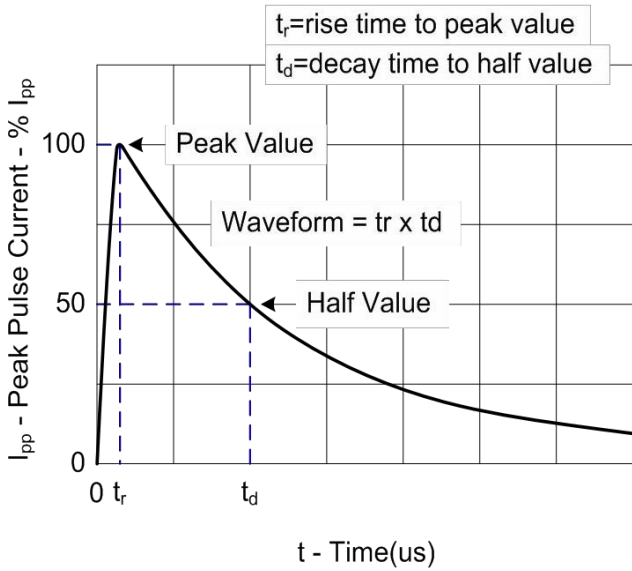


Fig.1 $t_r \times t_d$ Pulse Waveform

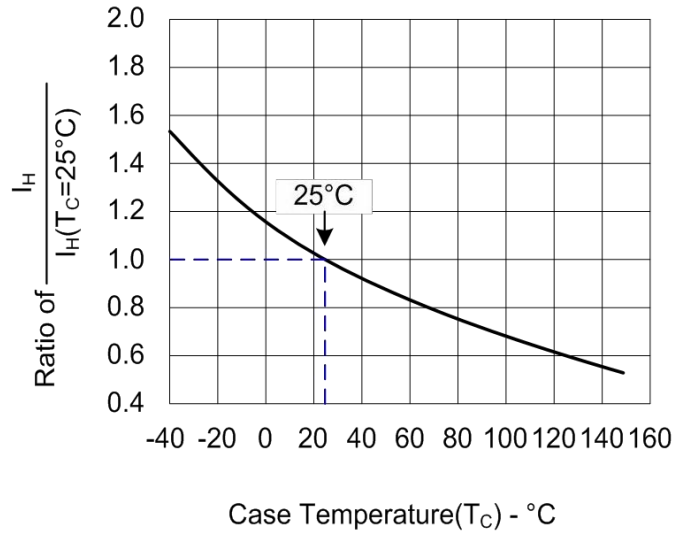


Fig.2 Normalized DC Holding Current versus Case Temperature

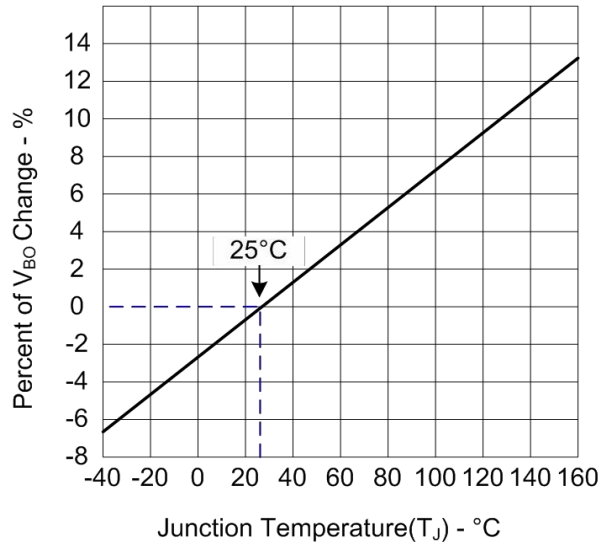


Fig.3 Normalized V_{BO} Change versus Junction Temperature



DFN3333-2L Package Outline Drawing

SYM	DIMENSIONS					
	Millimeters			Inches		
	Min	Nom	Max	Min	Nom	Max
A	0.500	--	0.600	0.020	--	0.024
D	3.250	3.300	3.350	0.128	0.130	0.132
E	3.250	3.300	3.350	0.128	0.130	0.132
e	2.700 BSC			0.106 BSC		
b	0.350	0.400	0.450	0.014	0.016	0.018
L	1.950	2.000	2.050	0.077	0.079	0.081

Suggested PAD Layout

SIZE	DFN3333-2L	
	Millimeters	Inches
A	2.10	0.083
B	2.5	0.098
C	1.00	0.040

Ordering Information

Part Number	Package	Weight	Base qty	Reel Size	Delivery mode
		grams(approx.)	(pcs)	(inch)	
P4500Q22CLRP	DFN3333-2L	0.034	5000	13	Tape and reel