

## Thyristors Surge Protection Device

### Features

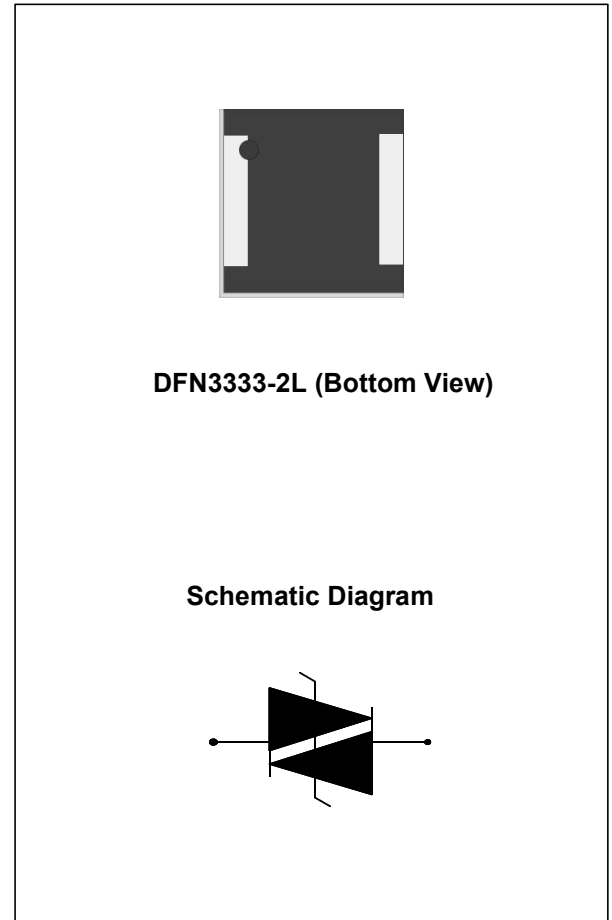
- For surface mounted applications to optimize board space.
- Low profile package.
- Bidirectional crowbar protection.
- Low leakage current.
- Low on-state voltage.
- Low capacitance.
- Solid-state silicon technology.
- Eliminates overvoltage caused by fast rising transients.

### 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

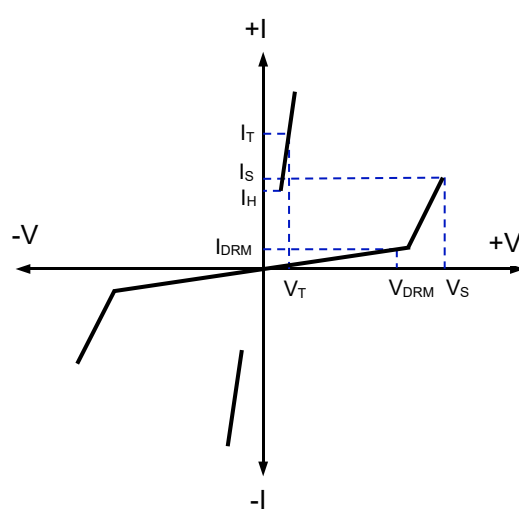


### Absolute Maximum Ratings ( $T_A=25^{\circ}\text{C}$ unless otherwise specified)

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
$V_{\text{DRM}}$	Peak off-state voltage
$I_{\text{DRM}}$	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	$\mu\text{A}$	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)

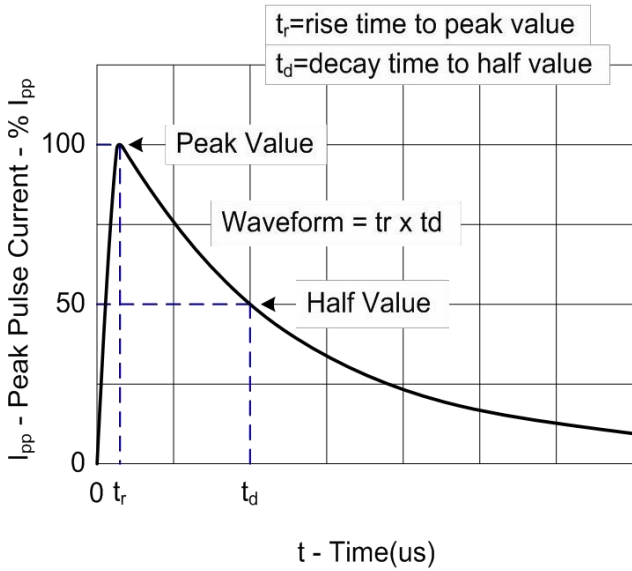


Fig.1  $t_r \times t_d$  Pulse Waveform

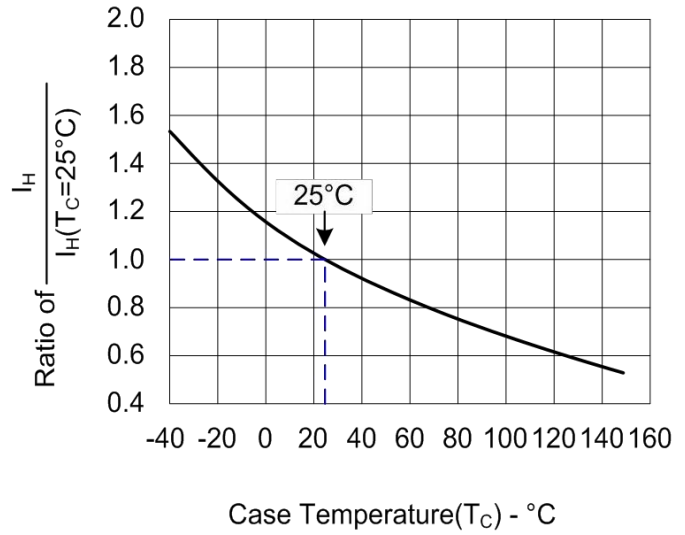


Fig.2 Normalized DC Holding Current versus Case Temperature

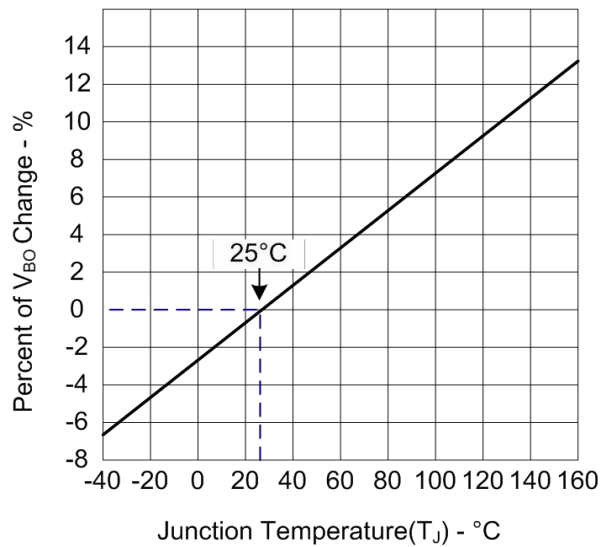


Fig.3 Normalized  $V_{BO}$  Change versus Junction Temperature



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

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