NELL SEMICONDUCTOR

NK3D160..(R) Series

RoHS

THREE PHASE DIODE MODULE

Features

1. NK3D160..(R) series Diode modules are designed for 3 phase rectification
2. Voltage rating up to 1600V
3. High surge capability

Ordering code

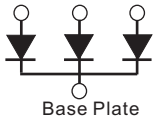
NK3D	160	/	06	(R)	B
(1)	(2)		(3)	(4)	(5)

(1) For Three Phase Diode modules

(2) Maximum average forward current , A

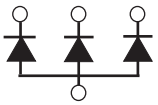
(3) Voltage code , V (code x 10 = / V_{RRM})

(4) Blank - for common cathode to base plate
R- for common anode to base plate



Base Plate

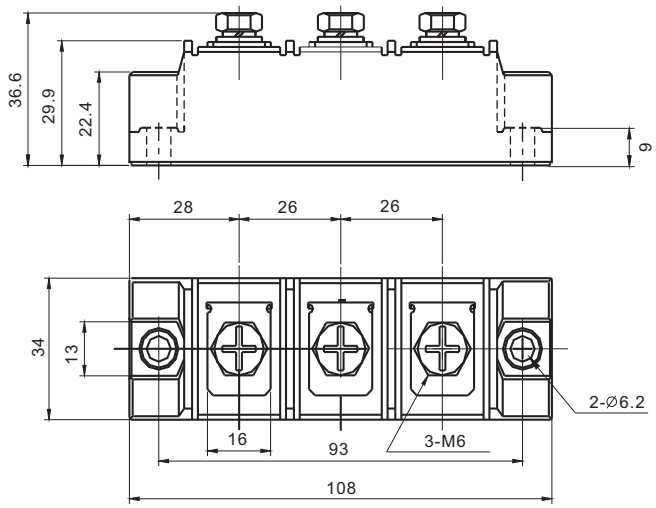
NK3D



Base Plate

NK3D..(R)

Half Bridge



All dimensions in millimeters(inches)

Electrical Characteristics

Parameter		Condition	Max. Value	Unit
$I_{F(AV)}$	Average forward current	180° half sine wave , 50 Hz Single side cooled , T_C=115 °C	160	A
$I_{F(RMS)}$	R.M.S. Forward current	Single side cooled , T_C=115 °C	254	A
V_{RRM}	Repetitive peak reverse voltage	t_p=10 ms V_{RMS} = V_{RRM} x 1.1	200 to 1600	V
I_{RRM}	Repetitive peak reverse current	V_R = V_{RRM}	12	mA
I_{FSM}	Peak one-cycle surge (non-repetitive forward current)	10 ms duration V_R = 0.6 V_{RRM}	5800	A
I^2t	Max. Permissible surge energy		33.7	KA^2S
V_{FM}	Peak forward voltage drop	I_{FM} = 180A	1.57	V
V_{FO}	Forward conduction threshold voltage		0.8	V
r_f	Forward conduction slope resistance		1.53	mΩ
T_{stg}	Storage temperature range		-40 to 150	°C
$R_{th(J-C)}$	Thermal resistance	Single side cooled	0.24	°C/ W
W_t	Approximate weight		340	g
T	Busbar to module (M 5)	A mounting compound is recommened. Torque should be rechecked after a period of 3 hours.	2.7	NM
	Module to heatsink (M 6)		2.7	NM

Fig.1

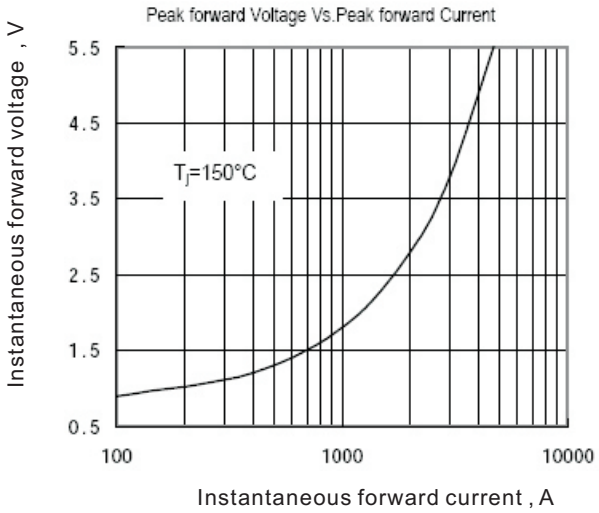


Fig.2

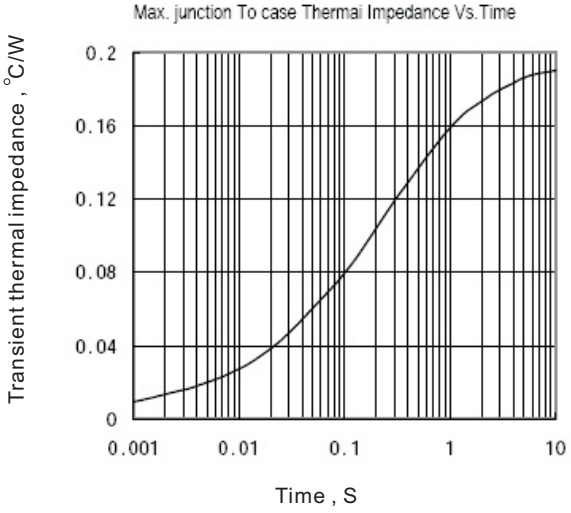


Fig.3

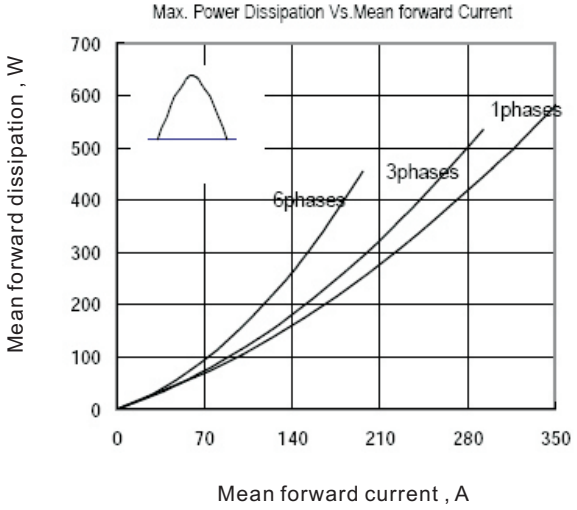


Fig.4

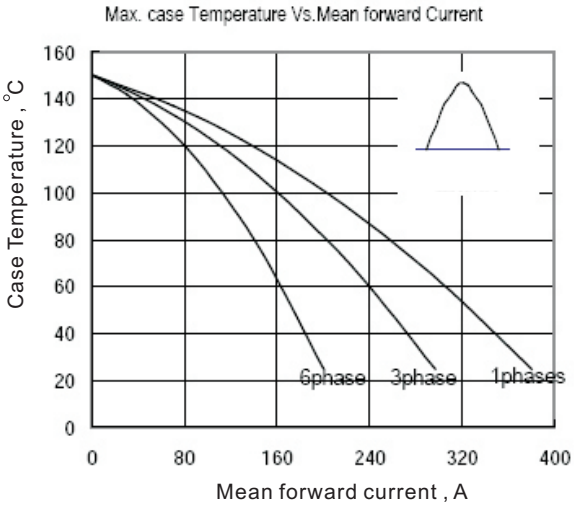


Fig.5

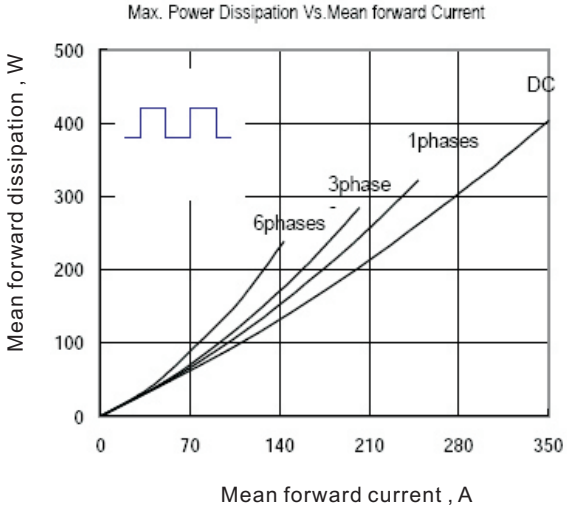


Fig.6