NELL SEMICONDUCTOR

NK3D60..(R) Series

RoHS

THREE PHASE DIODE MODULE

Features

1. NK3D60..(R) series Diode modules are designed for 3 phase rectification
2. Voltage rating up to 1600V
3. High surge capability

Ordering code

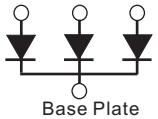
NK3D	60	/	06	(R)
(1)	(2)		(3)	(4)

(1) For Three Phase Diode modules

(2) Maximum average forward current , A

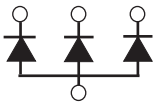
(3) Voltage code , V (code x 10 = / V_{RRM})

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



Base Plate

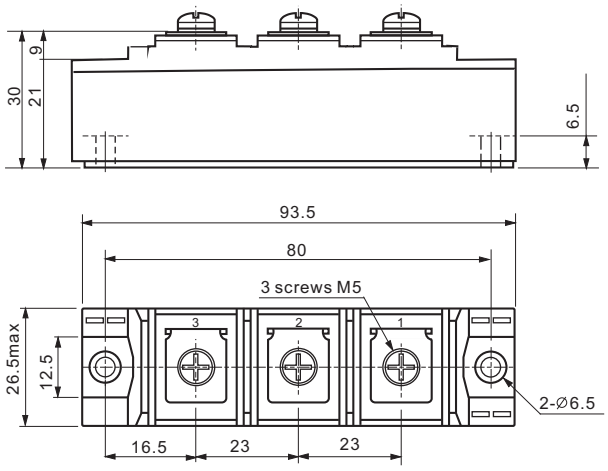
NK3D



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	60	A
$I_{F(RMS)}$	R.M.S. Forward current	Single side cooled , T_C=115 °C	94	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}	8	mA
I_{FSM}	Peak one-cycle surge (non-repetitive forward current)	10 ms duration V_R = 0.6 V_{RRM}	1200	A
I^2t	Max. Permissible surge energy		7	KA^2S
V_{FM}	Peak forward voltage drop	I_{FM} = 180A	1.6	V
V_{FO}	Forward conduction threshold voltage		0.8	V
r_f	Forward conduction slope resistance		4.78	mΩ
T_{stg}	Storage temperature range		-40 to 150	° C
$R_{th(J-C)}$	Thermal resistance	Single side cooled	0.7	°C/ W
W_t	Approximate weight		170	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
Peak forward voltage Vs. Peak forward current

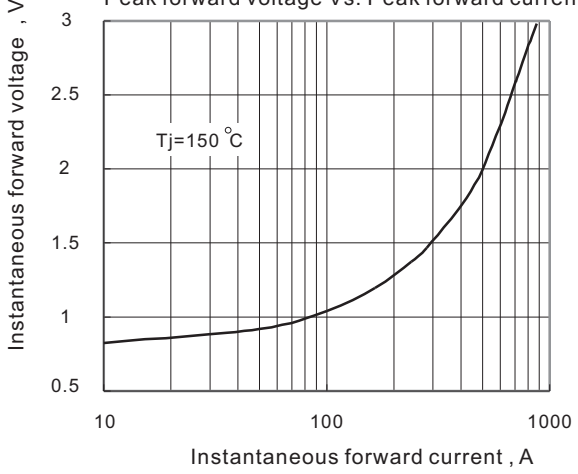


Fig.2
Max.junction to case thermal impedance Vs. Time

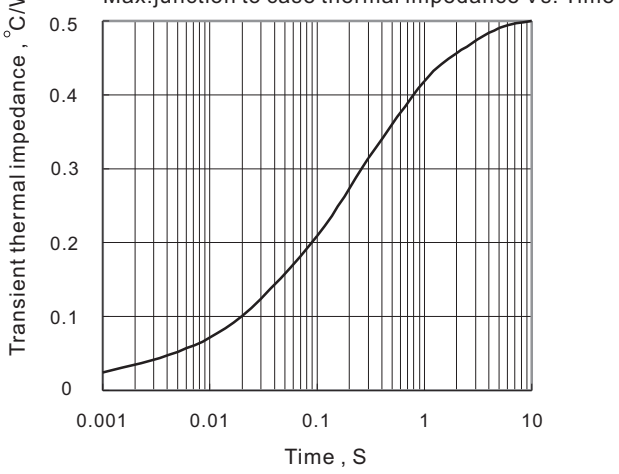


Fig.3
Max.power dissipation Vs. Mean forward current

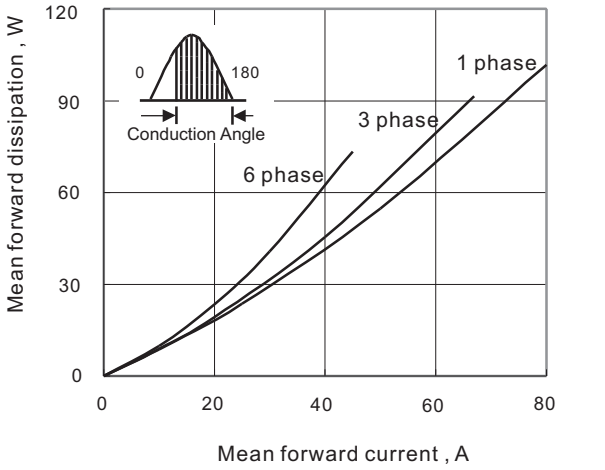


Fig.4
Max.case temperature Vs. Mean forward current

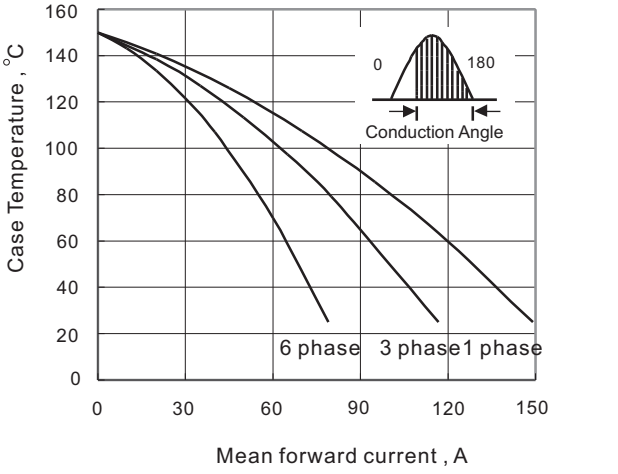


Fig.5
Max.power dissipation Vs. Mean forward current

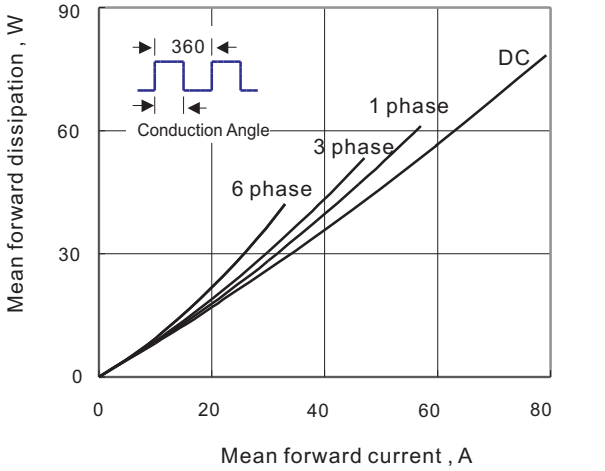


Fig.6
Max.case temperature Vs. Mean forward current