






Oct.1.2018 Copyright 2018 HIROSE ELECTRIC CO., LTD. All Rights Reserved.  
In case that the application demands a high level of reliability, such as automotive,  
please contact a company representative for further information.

Applicable standard						
Rating	Operating temperature range	-55°C to + 105°C (NOTE 1)		Storage temperature range	-10°C to + 60°C (NOTE 3)	
	Operating humidity range	20% to 80% (NOTE 2)		Storage humidity range	40% to 70% (NOTE 3)	
	Voltage	1000V AC/DC		Applicable connector	DF60(R)-*S-10.16C(##)	
	Current (*1) 	AWG10	40A	Applicable cable	AWG 10-12	
	AWG12	31A				
	Rated voltage	Rated current		Overvoltage category	IP-Degree	
UL	600V AC/DC	AWG10:55A/AWG12:45A (At Ambient Temp. 25°C) (Note 5)		—	—	
C-UL	600V AC/DC	See above (*1) (Temp. rise up 30°C MAX)		—	—	
TÜV	600V AC/DC	See above (*1)		III	IP00	
Specifications						
Item	Test method			REQUIREMENTS	QT	AT
<b>Construction</b>						
General examination	Visually and by measuring instrument.			According to drawing.	X	X
Marking	Confirmed visually.				X	X
<b>Electric characteristics</b>						
Contact resistance millivolt level method	DC6V MAX, 1A			2mΩ MAX.	X	—
<b>Mechanical characteristics</b>						
Contact insertion and extraction forces	1.0±0.002 by steel gauge.			Insertion force 12.0 N MAX. Extraction force 2.0 N MIN.	X	—
Mechanical operation	30times insertions and extractions.			①Contact resistance: 2 mΩ MAX. ②No damage, crack or looseness of parts.	X	—
Vibration	Frequency 10 to 500 Hz, total amplitude 1.5mm, Acceleration 98m/s <sup>2</sup> , at 2h for 3 directions.			①No electrical discontinuity of 1 μ s. ②No damage, crack or looseness of parts.	X	—
Shock	490 m/s <sup>2</sup> duration of pulse 11 ms at 3 times each for 3 both axial directions.			①No electrical discontinuity of 1 μ s. ②No damage, crack or looseness of parts.	X	—
Crimp tensile strength	Apply wire tensile strength to caulking area axially until wire become loosen or breakdown.			AWG10 401N MIN AWG12 313N MIN	X	—
<b>Environmental characteristics</b>						
Damp heat (steady state)	Exposed at 40 ± 2°C , 90 to 95 % , 96 h.			①Contact resistance: 2 mΩ MAX. ②No damage, crack or looseness of parts.	X	—
Rapid change of temperature	Temperature -55°C → +85°C Time 30MIN → 30MIN Under 25 cycles. (The transferring time of the tank is 2-3 MIN) (After leaving the room temperature for 1-2h.)			①Contact resistance: 2 mΩ MAX. ②No damage, crack or looseness of parts.	X	—
Dry heat	Exposed at 105 ± 2°C, 250h (After leaving the room temperature for 1-2h.)			①Contact resistance: 2 mΩ MAX. ②No damage, crack or looseness of parts.	X	—
<b>Remarks</b>						
Note1: Include the temperature rising by current.						
Note2: No condensing.						
Note3: Apply to the condition of long term storage for unused products before PCB on board . After mounted on PCB board , operating temperature and humidity range is applied for interim storage during transportation.						
	Count	Description of revisions	Designed	Checked	Date	
	8	DIS-H-00002440	TS. KUMAZAWA	TS. FUKUSHIMA	17. 01. 06	
Unless otherwise specifid , refer to IEC 60512.				Approved	K.I. AKIYAMA	15. 06. 11
				Checked	TS. FUKUSHIMA	15. 06. 10
				Designed	TS. KUMAZAWA	15. 06. 10
				Drawn	MI. SAKIMURA	15. 06. 09
Note QT:Qualification Test AT:Assurance Test X:Applicable Test			Drawing no.	ELC-342869-00-00		
	Specification sheet		Part no.	DF60-1012SCA		
	HIROSE ELECTRIC CO., LTD.		Code no.	CL680-3022-7-00		1/7



(Note 4) Derating curve takes manufacturing tolerances into consideration as well as uncertainties in temperature measurement and the measuring set up and is derived from the basic curve multiplied by 0.8 calculation.

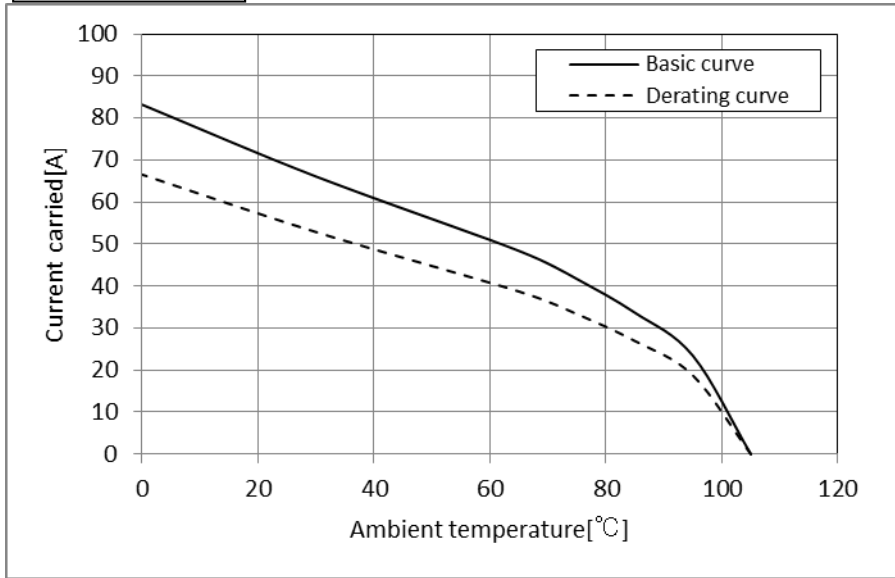
(Note 5) The value of rated current differs depending on the ambient temperature. It is recommended to use the product within the derating curve zone.

(Note 6) Measurement method of derating curve is shown below.

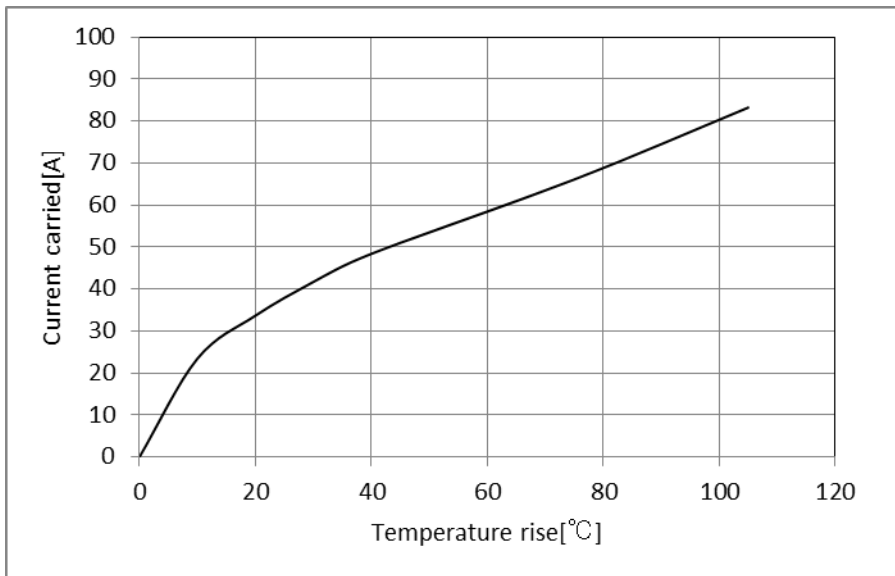
- Test specimen: Unused DF60-2P-10.16DS(27).  
Unused DF60-2S-10.16C  
Unused DF60-1012SCFA
- Test cable spec: AWG 10
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20773)

[Reference]

Derating curve



Temperature rise curve



Note QT:Qualification Test AT:Assurance Test X:Applicable Test

DRAWING NO.

ELC-342869-00-00



SPECIFICATION SHEET

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DF60-1012SCA

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL680-3022-7-00

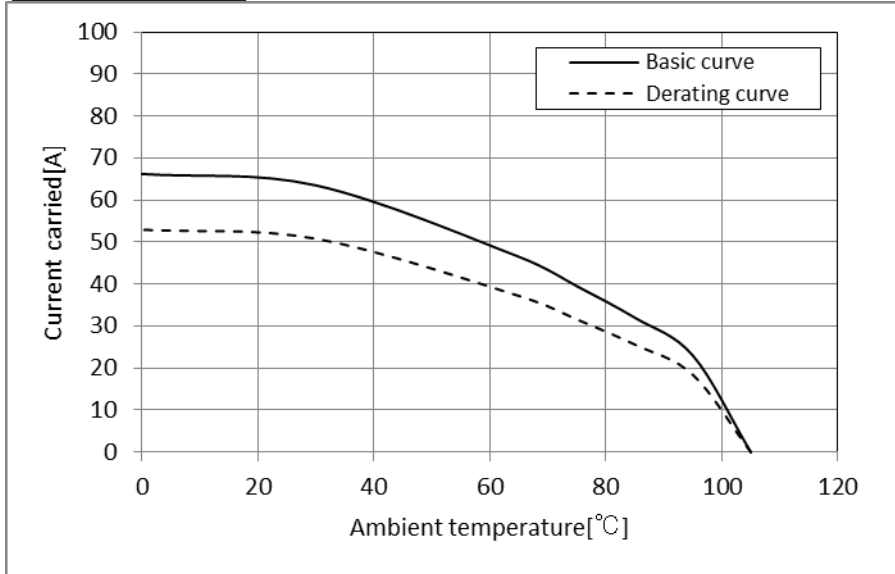


(Note 7) Measurement method of derating curve is shown below.

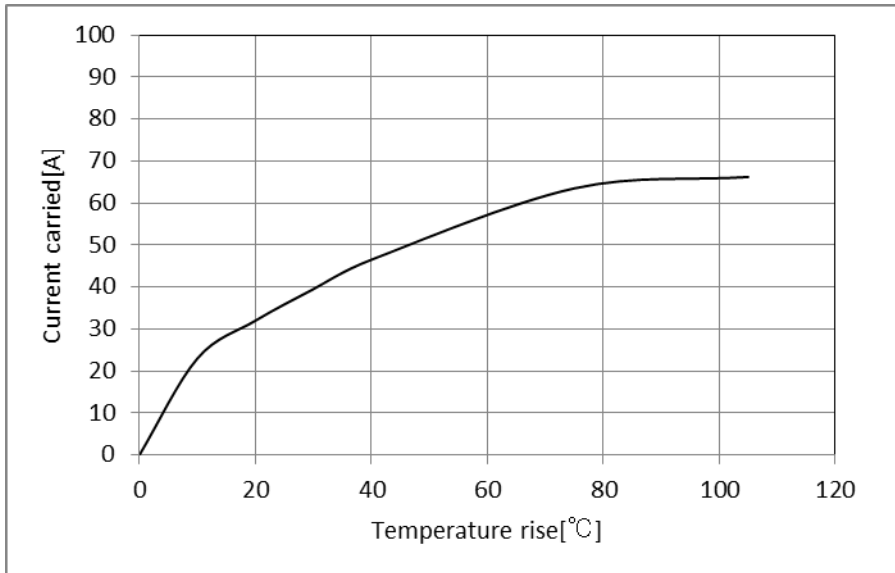
- Test specimen: Unused DF60-3P-10.16DS(27).  
Unused DF60-3S-10.16C  
Unused DF60-1012SCFA
- Test cable spec: AWG 10
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20802)

[Reference]

### Derating curve



### Temperature rise curve



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ELC-342869-00-00



SPECIFICATION SHEET

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DF60-1012SCA

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL680-3022-7-00

3/7

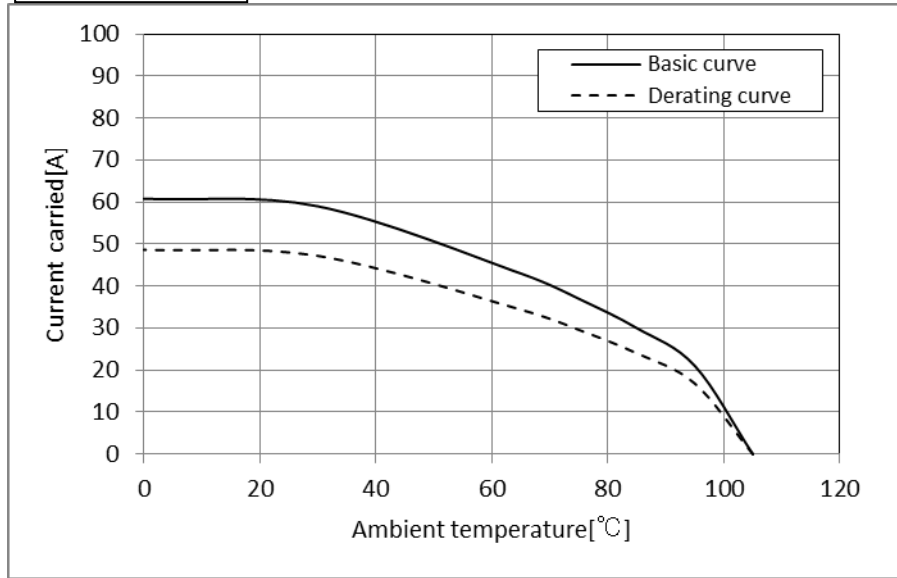


(Note 8) Measurement method of derating curve is shown below.

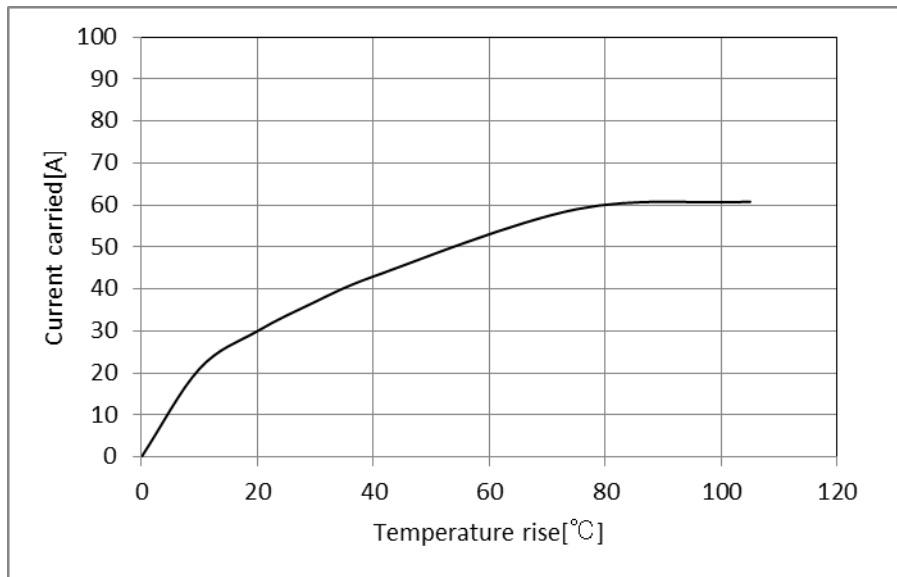
- Test specimen: Unused DF60-6P-10.16DS(27).  
Unused DF60-6S-10.16C  
Unused DF60-1012SCFA
- Test cable spec: AWG 10
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20802)

[Reference]

Derating curve



Temperature rise curve



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ELC-342869-00-00



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DF60-1012SCA

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL680-3022-7-00



4/7

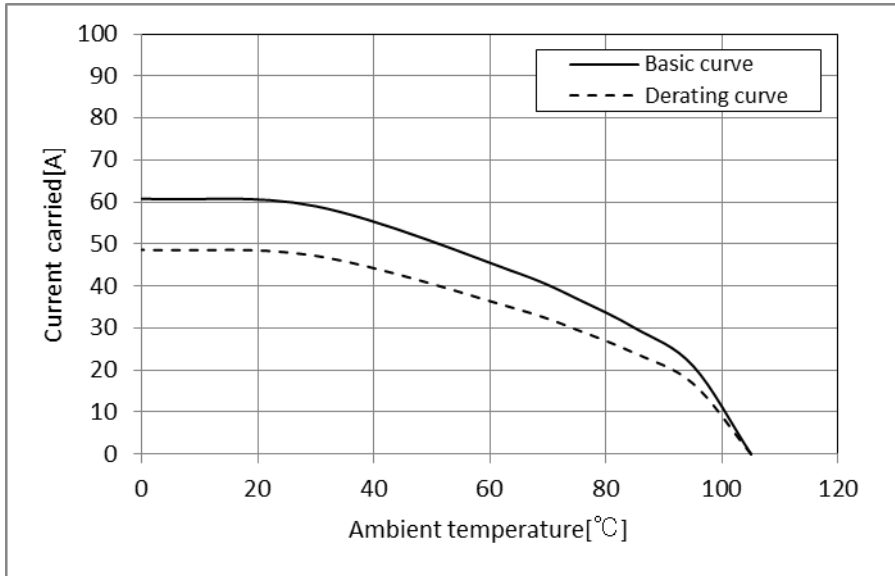


(Note 9) Measurement method of derating curve is shown below.

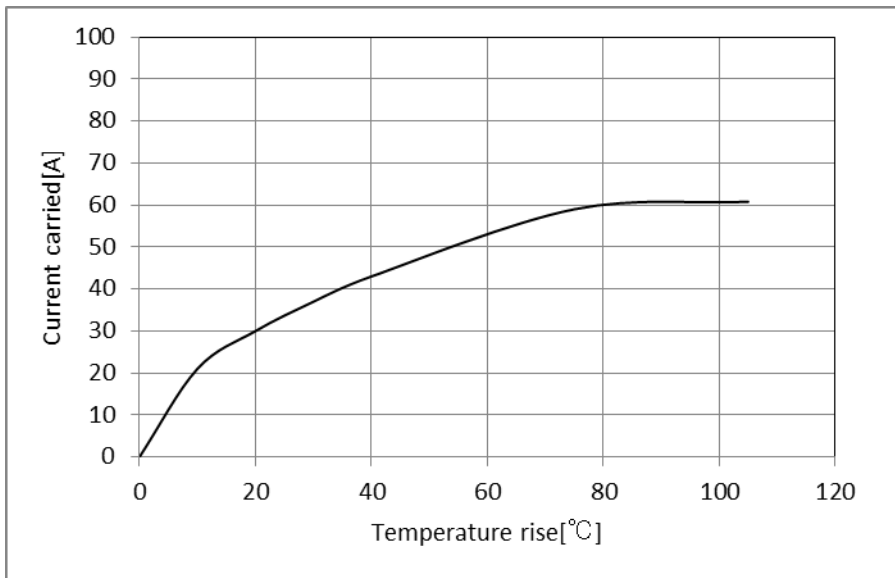
- Test specimen: Unused DF60-1P-10.16DS(27).  
Unused DF60-1S-10.16C  
Unused DF60-1012SCFA
- Test cable spec: AWG 12
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20802)

[Reference]

Derating curve



Temperature rise curve



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ELC-342869-00-00



SPECIFICATION SHEET

PART NO.

DF60-1012SCA

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL680-3022-7-00



5/7

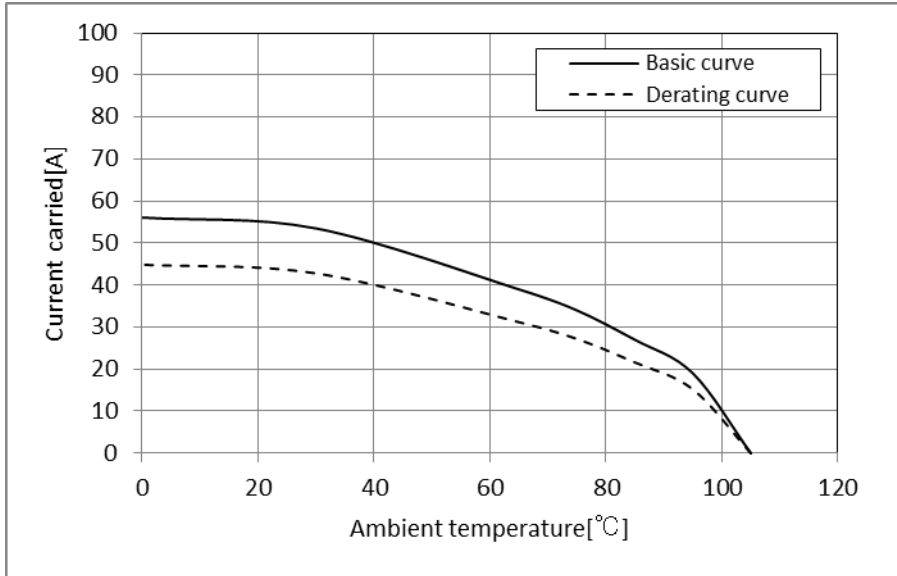


(Note 10) Measurement method of derating curve is shown below.

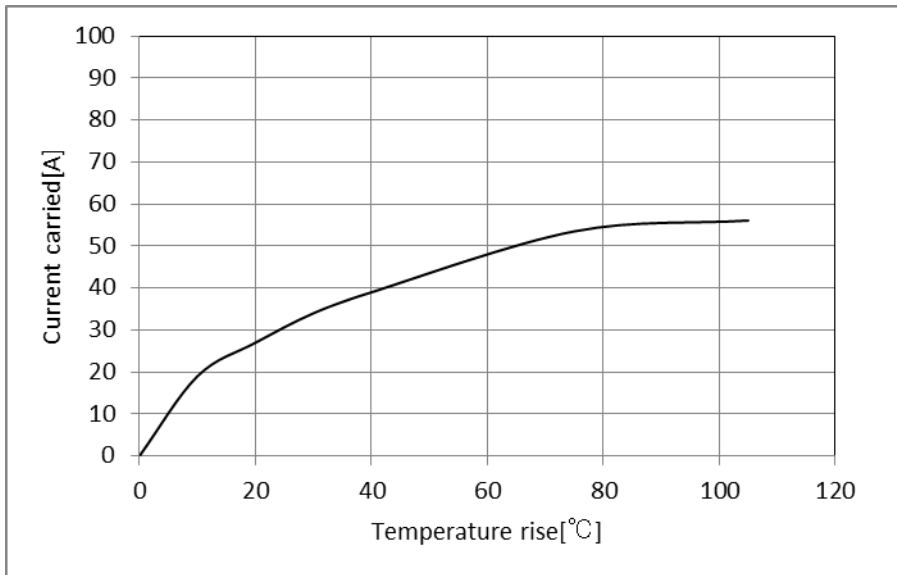
- Test specimen:Unused DF60-3P-10.16DS(27).  
Unused DF60-3S-10.16C  
Unused DF60-1012SCFA
- Test cable spec:AWG 12
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20802)

[Reference]

Derating curve



Temperature rise curve



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ELC-342869-00-00



SPECIFICATION SHEET

PART NO.

DF60-1012SCA

HIROSE ELECTRIC CO., LTD.

CODE NO.

CL680-3022-7-00



6/7

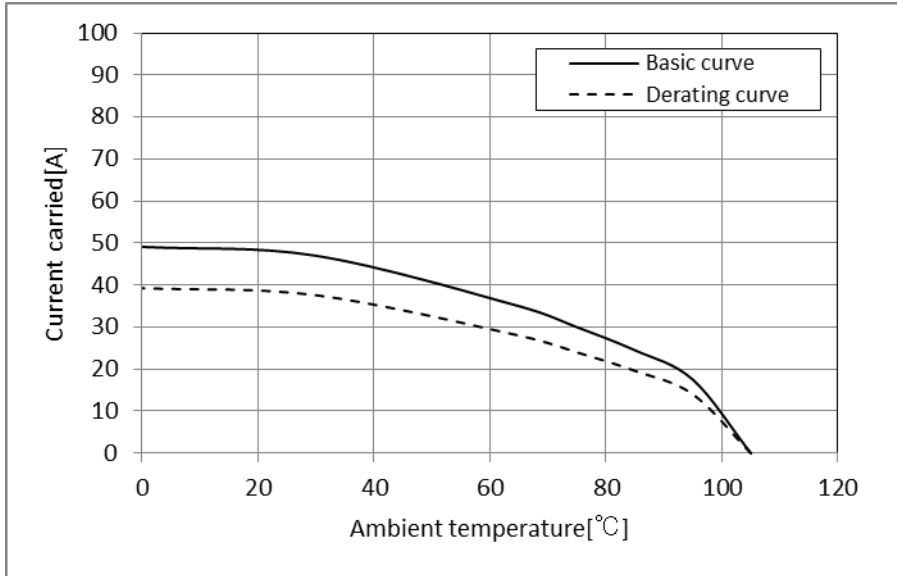


(Note 11) Measurement method of derating curve is shown below.

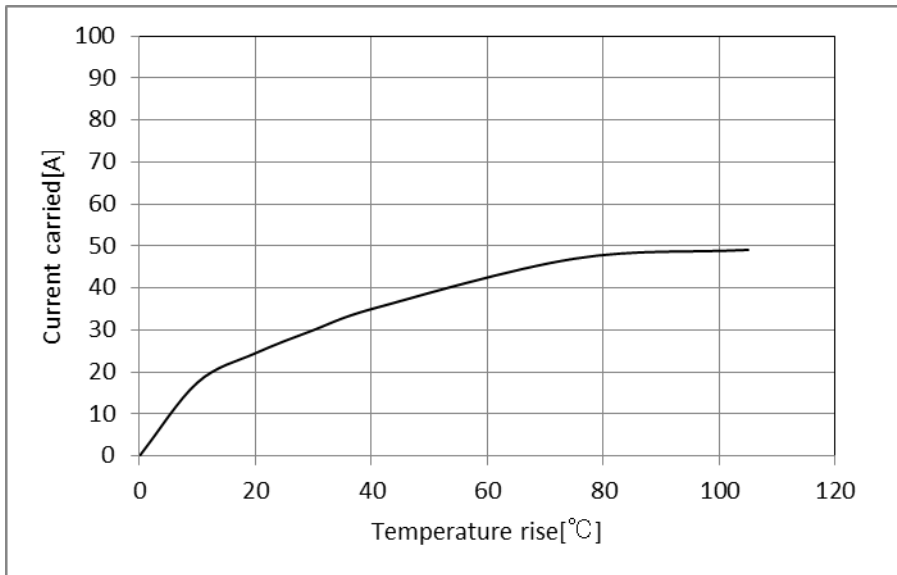
- Test specimen: Unused DF60-6P-10.16DS(27).  
Unused DF60-6S-10.16C  
Unused DF60-1012SCFA
- Test cable spec: AWG 12
- Test condition: Turn on electricity under the static state and measure.  
(Test report # TR680E-20802)

[Reference]

Derating curve



Temperature rise curve



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7/7