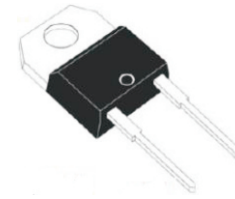


## CDBJSC8650-G

**Reverse Voltage: 650 V**

**Forward Current: 8 A**

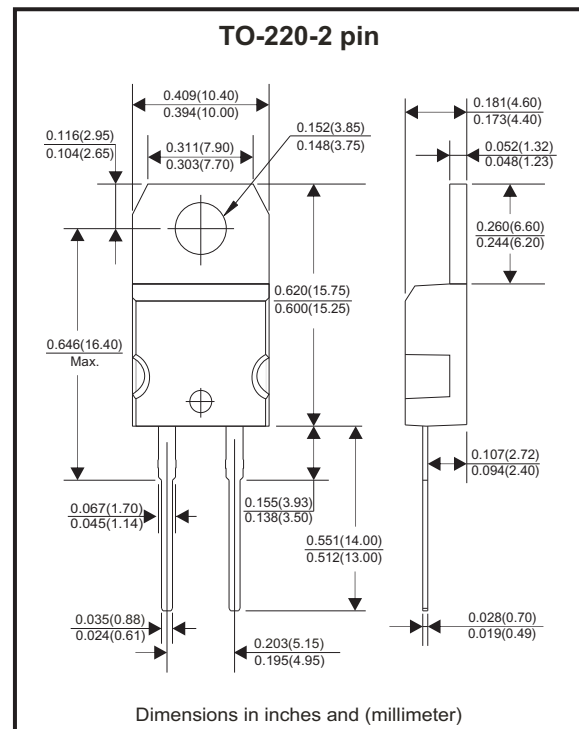
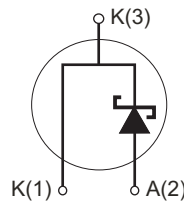
**RoHS Device**



### Features

- Rated to 650V at 8 Amps
- Short recovery time.
- High speed switching possible.
- High frequency operation.
- High temperature operation.
- Temperature independent switching behaviour.
- Positive temperature coefficient on VF.

### Circuit diagram



### Maximum Rating (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Value	Unit
Repetitive peak reverse voltage		$V_{RRM}$	650	V
Surge peak reverse voltage		$V_{RSM}$	650	V
DC blocking voltage		$V_{DC}$	650	V
Continuous forward current	$T_C = 25^\circ C$	$I_F$	25.5	A
	$T_C = 135^\circ C$		11	
	$T_C = 150^\circ C$		8	
Repetitive peak forward surge current	$T_C = 25^\circ C$ , $t_p = 10ms$ Half sine wave, $D = 0.3$	$I_{FRM}$	40	A
Non-repetitive peak forward surge current	$T_C = 25^\circ C$ , $t_p = 10ms$ Half sine wave	$I_{FSM}$	80	A
Power dissipation	$T_C = 25^\circ C$	$P_{TOT}$	102.4	W
	$T_C = 110^\circ C$		45	
Typical thermal resistance	Junction to case	$R_{\theta JC}$	1.465	$^\circ C/W$
Operating junction temperature range		$T_J$	-55 ~ +175	$^\circ C$
Storage temperature range		$T_{STG}$	-55 ~ +175	$^\circ C$

Company reserves the right to improve product design, functions and reliability without notice.

REV:

## Electrical Characteristics (at Ta=25°C unless otherwise noted)

Parameter	Conditions	Symbol	Typ	Max	Unit
Forward voltage	IF = 8 A , TJ = 25°C	VF	1.47	1.7	V
	IF = 8 A , TJ = 175°C		1.78	2.5	
Reverse current	VR = 650V , TJ = 25°C	IR	10	100	μA
	VR = 650V , TJ = 175°C		15	200	
Total capacitive charge	VR = 400V , TJ = 150°C QC = ∫ <sub>0</sub> <sup>VR</sup> C(V) dv	QC	30	-	nC
Total capacitance	VR = 0V , TJ = 25°C , f = 1 MHz	C	550	588	pF
	VR = 200V , TJ = 25°C , f = 1 MHz		56.5	57	
	VR = 400V , TJ = 25°C , f = 1 MHz		54	54.5	

## Typical Characteristics (CDBJSC8650-G)

Fig.1 - Forward Characteristics

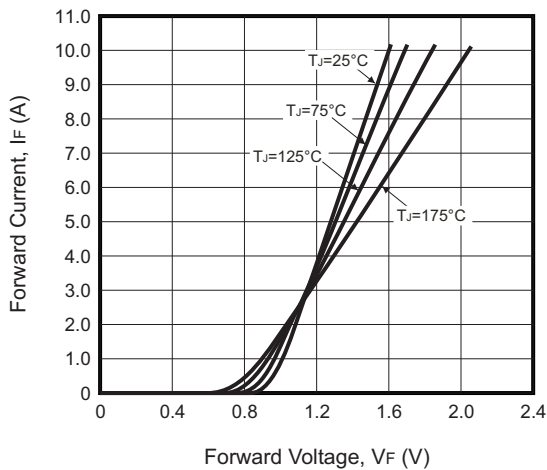


Fig.2 - Reverse Characteristics

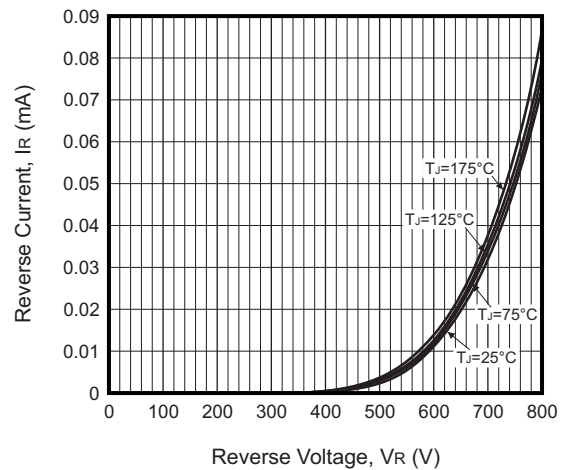


Fig.3 - Current Derating

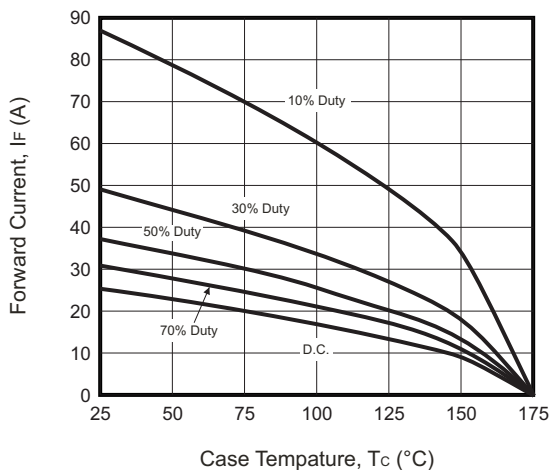
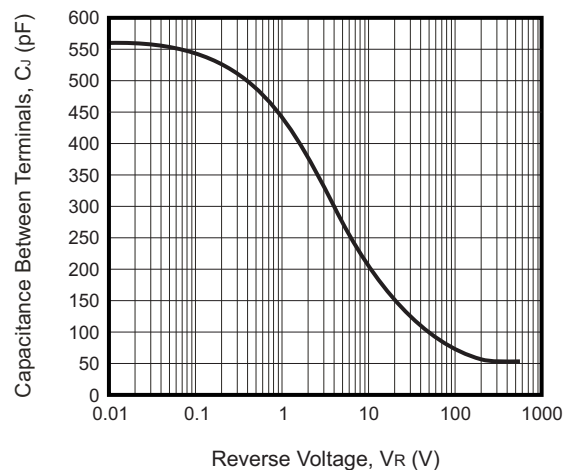


Fig.4 - Capacitance vs. Reverse Voltage



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