

SEMITOP[®]3

3-phase bridge rectifier + brake chopper + 3-phase bridge inverter SK 10 DGDL 12T4 ET

Target Data

Features

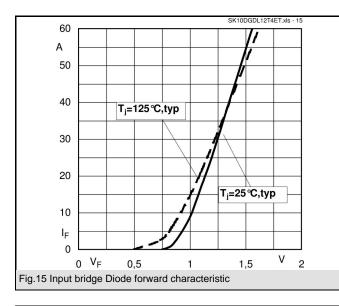
- One screw mounting module
- Trench4 IGBT technology
- CAL4 technology FWD
- Integrated NTC temperature sensor

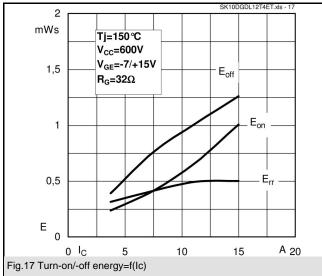
1) $V_{CE,sat}$, V_F = chip level value

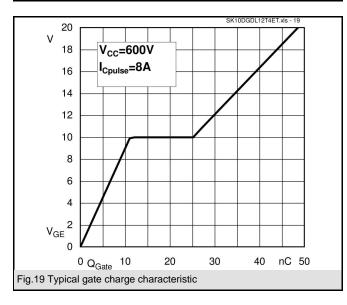
J		Ts = 25 °C	s = 25 °C, unless otherwise specified			
Symbol	Conditions	1	Values		Units	
IGBT - Inv	erter,Chopper					
V _{CES}			1200		V	
I _C	T _s = 25 (70) °C		17 (15)		А	
ICRM	I_{CRM} = 3 x I_{Cnom} , t_p = 1 ms		24		А	
V _{GES}			± 20		V	
T _i			-40 +175		°C	
,					Ű	
	verter,Chopper	1	45 (40)		۸ ا	
I _F	$T_s = 25 (70) °C$		15 (12)		A	
FRM	$I_{FRM} = 2xI_{Fnom}, t_p = 1 ms$		24		A	
Tj			-40 +150		°C	
Rectifier						
V _{RRM}			1600		V	
I _F	T _s = 70 °C		28		Α	
I _{FSM} / I _{TSM}	t _p = 10 ms , sin 180 ° ,T _j = 25 °C		220		Α	
l ² t	t _p = 10 ms , sin 180 ° ,T _j = 25 °C		240		A²s	
Т _ј			-40 +175		°C	
T _{sol}	Terminals, 10 s		260		°C	
T _{stg}			-40 +125		°C	
V _{isol}	AC, 1 min. / 1 s		2500 / 3000		V	
' ISOI					'	
O l (•	Ts = 25 °C	unloss of	honwiso sn	ocifio	
Character						
-	Conditions	min.	typ.	max.	Unit	
IGBT - Inv						
V _{CEsat}	$I_{\rm C} = 8 \text{ A}, T_{\rm j} = 25 (150) ^{\circ}{\rm C}$	_		2,05 (2,45)	V	
V _{GE(th)}	$V_{GE} = V_{CE}, I_{C} = 0.3 \text{ mA}$	5	5,8	6,5	V	
V _{CE(TO)}	$T_j = 25 \ ^{\circ}C \ (150) \ ^{\circ}C$		1,1 (1)	1,3 (1,2)	V	
r _T	$T_{j} = 25 \text{ °C} (150) \text{ °C}$		93,8 (156)		mΩ	
C _{ies}	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$		0,49		nF	
C	V _{CE} = 25 V _{GE} = 0 V, f = 1 MHz		0,05		nF	
C _{oes}			0.00			
C _{res}	V _{CE} = 25 V _{GE} = 0 V, f = 1 MHz		0,03		nF	
	$V_{CE}^{CE} = 25 V_{GE}^{CE} = 0 V$, f = 1 MHz per IGBT		0,03 2,2			
C _{res} R _{th(j-s)}	V _{CE} = 25 V _{GE} = 0 V, f = 1 MHz				nF	
C _{res}	$V_{CE} = 25 V_{GE} = 0 V$, f = 1 MHz per IGBT under following conditions $V_{CC} = 600 V$, $V_{GE} = \pm 15 V$		2,2		nF K/W	
C _{res} R _{th(j-s)} t _{d(on)} t _r	V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz per IGBT under following conditions		2,2 16		nF K/W ns	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \end{array}$	$V_{CE} = 25 V_{GE} = 0 V$, f = 1 MHz per IGBT under following conditions $V_{CC} = 600 V$, $V_{GE} = \pm 15 V$		2,2 16 14		nF K/W ns ns	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$		2,2 16 14 273		nF K/W ns ns ns	
$\begin{array}{c} C_{res} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \\ \hline E_{on} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$		2,2 16 14 273 85		nF K/W ns ns ns ns	
$\begin{array}{c} C_{res} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_d(off) \\ t_f \\ \hline E_{on} \\ \hline E_{off} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load		2,2 16 14 273 85 0,41		nF K/W ns ns ns ms mJ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \\ E_{on} \\ \hline E_{off} \\ \hline \textbf{Diode - In} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper		2,2 16 14 273 85 0,41 0,75	2 71 (2 77)	nF K/W ns ns ns mJ mJ	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_r \\ E_{on} \\ \hline \textbf{Diode - In} \\ V_F = V_{EC} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44)	2,71 (2,77)	nF K/W ns ns ns mJ mJ	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \\ E_{on} \\ E_{off} \\ \hline \textbf{Diode - In} \\ V_F = V_{EC} \\ V_{(TO)} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load Verter, Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{i} = 25 °C (150) °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9)	1,5 (1,1)	nF K/W ns ns ns mJ mJ V V	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \\ E_{on} \\ E_{off} \\ \hline \textbf{Diode - In} \\ V_F = V_{EC} \\ V_{(TO)} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44)		nF K/W ns ns ns mJ mJ	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ t_{d(off)} \\ t_f \\ E_{on} \\ \hline \textbf{Diode - In} \\ V_F = V_{EC} \\ V_{(TO)} \\ r_T \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load Verter, Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{i} = 25 °C (150) °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192)	1,5 (1,1) 151,3	nF K/W ns ns ns mJ mJ V V	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline \\ t_{d(on)} \\ t_{r} \\ t_{d(off)} \\ t_{f} \\ E_{on} \\ E_{off} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter, Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ V V ν mΩ K/W	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_{r} \\ t_{d(off)} \\ t_{f} \\ E_{on} \\ E_{off} \\ \hline \textbf{Diode - In} \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline R_{th(j-s)} \\ \hline I_{RRM} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ t_{d(on)} \\ t_{r} \\ t_{d(off)} \\ t_{f} \\ E_{on} \\ E_{off} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ V V mΩ K/W A μC	
$\begin{array}{l} C_{res} \\ R_{th(j-s)} \\ \hline t_{d(on)} \\ t_{r} \\ t_{d(off)} \\ t_{f} \\ E_{on} \\ E_{off} \\ \hline \textbf{Diode - In} \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline R_{th(j-s)} \\ \hline I_{RRM} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 MHz$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter, Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W	
$\begin{array}{c} C_{res} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ \hline t_{d(off)} \\ t_f \\ \hline E_{on} \\ \hline E_{off} \\ \hline \textbf{Diode - In} \\ \hline V_F = V_{EC} \\ V_{(TO)} \\ r_T \\ \hline R_{th(j-s)} \\ \hline I_{RRM} \\ Q_{rr} \\ \hline E_{rr} \\ \hline \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ V V mΩ K/W A μC	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d}(on) \\ t_{r} \\ E_{on} \\ \hline \\ E_{off} \\ \hline \\ \hline \\ Diode - In \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{th(j-s)} \\ \hline \\ I_{RRM} \\ Q_{rr} \\ \hline \\ R_{rr} \\ \hline \\ \hline \\ \hline \\ \hline \\ Diode - Rec \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W A μC mJ	
$\begin{array}{c} C_{res} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ \hline t_{d(off)} \\ t_f \\ \hline E_{on} \\ \hline Diode - In \\ \hline V_F = V_{EC} \\ \hline V_{(TO)} \\ \hline r_T \\ \hline R_{th(j-s)} \\ \hline I_{RRM} \\ \hline Q_{rr} \\ \hline E_{rr} \\ \hline \hline Diode - Re \\ \hline V_F \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W A μC mJ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d(on)} \\ t_{r} \\ E_{on} \\ \hline \\ Diode - In \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{RM} \\ Q_{rr} \\ E_{rr} \\ \hline \\ \hline \\ Diode - Re \\ V_{F} \\ V_{(TO)} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V W MΩ K/W A μC mJ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d}(on) \\ t_{r} \\ E_{on} \\ E_{off} \\ \hline \\ \hline \\ Diode - In \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{th(j-s)} \\ \hline \\ R_{RM} \\ Q_{rr} \\ E_{rr} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W A μC mJ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d}(on) \\ t_{r} \\ E_{on} \\ E_{off} \\ \hline \\ \hline \\ Diode - In \\ V_{F} = V_{EC} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{th(j-s)} \\ \hline \\ R_{RM} \\ Q_{rr} \\ E_{rr} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V W MΩ K/W A μC mJ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{d(on)} \\ t_{r} \\ t_{d(off)} \\ t_{f} \\ E_{on} \\ E_{off} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ octifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$ per diode		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9 20	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W A μC mJ V V mΩ	
$\begin{array}{c} C_{res} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ \hline t_{d(off)} \\ t_f \\ \hline E_{on} \\ \hline E_{off} \\ \hline \textbf{Diode - In} \\ \hline V_F = V_{EC} \\ V_{(TO)} \\ \hline r_T \\ \hline R_{th(j-s)} \\ \hline \hline \textbf{Diode - Re} \\ \hline V_F \\ \hline V_{(TO)} \\ \hline r_T \\ \hline R_{th(j-s)} \\ \hline \textbf{Temperat} \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ octifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$ per diode		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9 20	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V V mΩ K/W A μC mJ V V wΩ	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d(on)} \\ t_{r} \\ \hline \\ t_{d(off)} \\ t_{f} \\ \hline \\ E_{on} \\ \hline \\ \hline \\ Diode - In \\ V_{F} \\ V_{F} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{th(j-s)} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ per diode ur sensor 5 %, T_{r} = 25 (100) °C		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9 20 2 2	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ mJ V V mΩ K/W A μC mJ V V MΩ K/W	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline R_{th(j-s)} \\ \hline t_{d(on)} \\ t_r \\ \hline t_{d(off)} \\ t_f \\ \hline E_{on} \\ \hline Diode - In \\ V_F = V_{EC} \\ V_{(TO)} \\ r_T \\ \hline R_{th(j-s)} \\ \hline I_{RRM} \\ Q_{rr} \\ \hline E_{rr} \\ \hline \hline Diode - Re \\ V_F \\ V_{(TO)} \\ r_T \\ \hline R_{th(j-s)} \\ \hline Temperati \\ \hline R_{ts} \\ \hline Mechanic \\ \hline \end{array}$	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ per diode ur sensor 5 %, T_{r} = 25 (100) °C		2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9 20 2 5000(493)	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ W V W MΩ K/W A μC mJ V V W MΩ K/W	
$\begin{array}{c} C_{res} \\ R_{th(j-s)} \\ \hline \\ R_{th(j-s)} \\ \hline \\ t_{d(on)} \\ t_{r} \\ \hline \\ t_{d(off)} \\ t_{f} \\ \hline \\ E_{on} \\ \hline \\ \hline \\ Diode - In \\ V_{F} \\ V_{F} \\ V_{(TO)} \\ r_{T} \\ \hline \\ R_{th(j-s)} \\ \hline \\ $	$V_{CE} = 25 V_{GE} = 0 V, f = 1 \text{ MHz}$ per IGBT under following conditions $V_{CC} = 600 V, V_{GE} = \pm 15 V$ $I_{C} = 8 A, T_{j} = 150 °C$ $R_{Gon} = R_{Goff} = 32 \Omega$ inductive load verter,Chopper $I_{F} = 15 A, T_{j} = 25(150) °C$ $T_{j} = 25 °C (150) °C$ $T_{j} = 25 °C (150) °C$ per diode under following conditions $I_{F} = 8 A, V_{R} = 600 V$ $V_{GE} = 0 V, T_{j} = 150 °C$ $di_{F/dt} = 1375 A/\mu s$ ectifier $I_{F} = 15 A, T_{j} = 25() °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ $T_{j} = 150 °C$ per diode ur sensor 5 %, T_{r} = 25 (100) °C	2,25	2,2 16 14 273 85 0,41 0,75 2,38 (2,44) 1,3 (0,9) 135 (192) 2,7 15 0,2 0,41 1,1 0,9 20 2 2	1,5 (1,1) 151,3	nF K/W ns ns mJ mJ mJ V V mΩ K/W A μC mJ V V MΩ K/W	

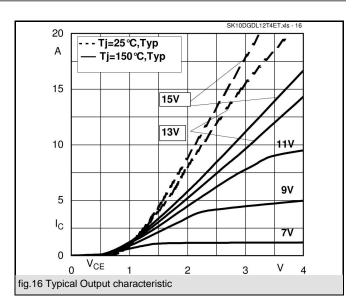
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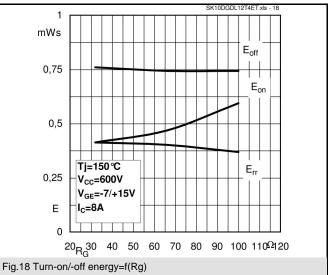
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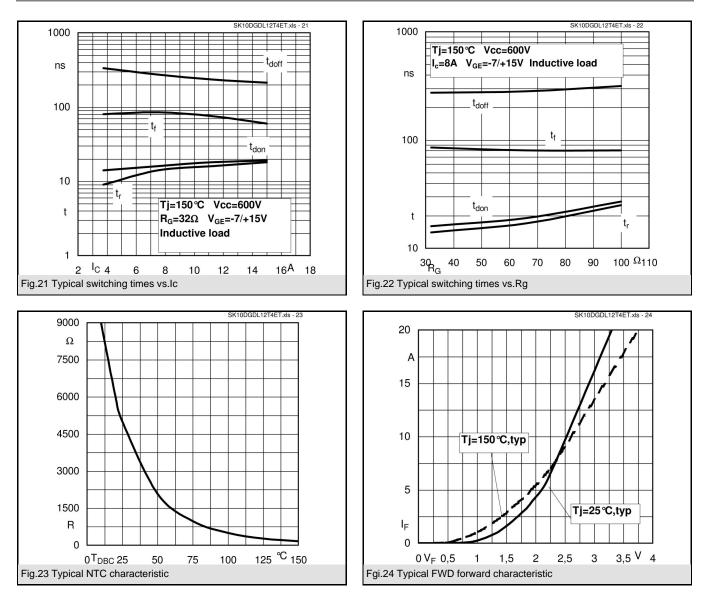




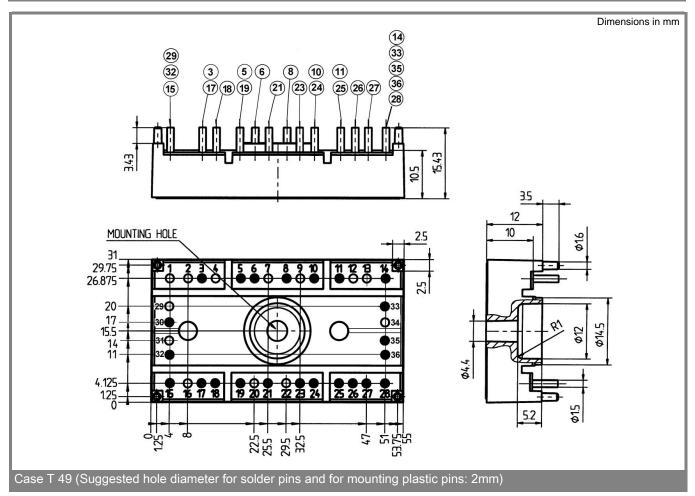


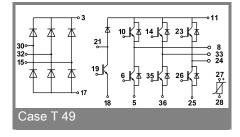






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This is an electrostatic discharge sensitive device (ESDS), international standard IEC 60747-1, Chapter IX.

* The specifications of our components may not be considered as an assurance of component characteristics. Components have to be tested for the respective application. Adjustments may be necessary. The use of SEMIKRON products in life support appliances and systems is subject to prior specification and written approval by SEMIKRON. We therefore strongly recommend prior consultation of our personal.

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