



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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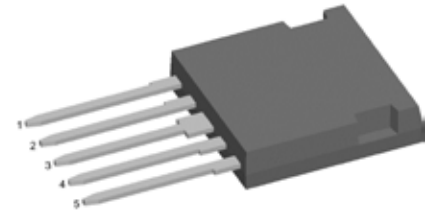
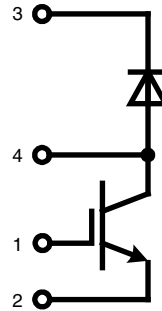
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IGBT Boost Chopper

in ISOPLUS i4-PAC™

$$\begin{aligned} I_{C25} &= 65 \text{ A} \\ V_{CES} &= 600 \text{ V} \\ V_{CE(sat) \text{ typ.}} &= 1.6 \text{ V} \end{aligned}$$



RL E72873

IGBT						
Symbol	Conditions		Maximum Ratings			
V_{CES}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$		600			V
V_{GES}			± 20			V
I_{C25}	$T_C = 25^{\circ}\text{C}$		65			A
I_{C90}	$T_C = 90^{\circ}\text{C}$		40			A
I_{CM}	$V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega; T_{VJ} = 125^{\circ}\text{C}$		100			A
V_{CEK}	RBSOA Clamped inductive load; $L = 100 \mu\text{H}$		V_{CES}			
t_{SC} (SCSOA)	$V_{CE} = V_{CES}; V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega$ $T_{VJ} = 125^{\circ}\text{C}; \text{non-repetitive}$		10			μs
P_{tot}	$T_C = 25^{\circ}\text{C}$		200			W
Symbol		Conditions	Characteristic Values			
			(T _{VJ} = 25°C, unless otherwise specified)			
			min.	typ.	max.	
$V_{CE(sat)}$	$I_C = 30 \text{ A}; V_{GE} = 15 \text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		1.6 1.8	2.0	V V
$V_{GE(th)}$	$I_C = 1 \text{ mA}; V_{GE} = V_{CE}$		4.5		6.5	V
I_{CES}	$V_{CE} = V_{CES}; V_{GE} = 0 \text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 125^{\circ}\text{C}$		0.1	0.1	mA mA
I_{GES}	$V_{CE} = 0 \text{ V}; V_{GE} = \pm 20 \text{ V}$				200	nA
$t_{d(on)}$ t_r $t_{d(off)}$ t_f E_{on} E_{off}	Inductive load $V_{CE} = 300 \text{ V}; I_C = 30 \text{ A}$ $V_{GE} = \pm 15 \text{ V}; R_G = 22 \Omega$ $T_{VJ} = 125^{\circ}\text{C}$			50 60 300 30 1.0 1.4		ns ns ns ns mJ mJ
C_{ies}	$V_{CE} = 25 \text{ V}; V_{GE} = 0 \text{ V}; f = 1 \text{ MHz}$			2.8		nF
Q_{Gon}	$V_{CE} = 300 \text{ V}; V_{GE} = 15 \text{ V}; I_C = 50 \text{ A}$			120		nC
R_{thJC} R_{thJH}	with heatsink compound			1.2	0.6	K/W K/W

Features

- NPT IGBT technology
 - low saturation voltage with positive temperature coefficient
 - fast switching
 - wide safe operating area
- HiPerFRED™ diode
 - fast reverse recovery
 - low operating forward voltage
 - low leakage current
- ISOPLUS i4-PAC™ package
 - isolated back surface
 - low coupling capacity between pins and heatsink
 - enlarged creepage towards heatsink
 - application friendly pinout
 - low inductive current path
 - high reliability
 - industry standard outline
 - UL registered E 72873

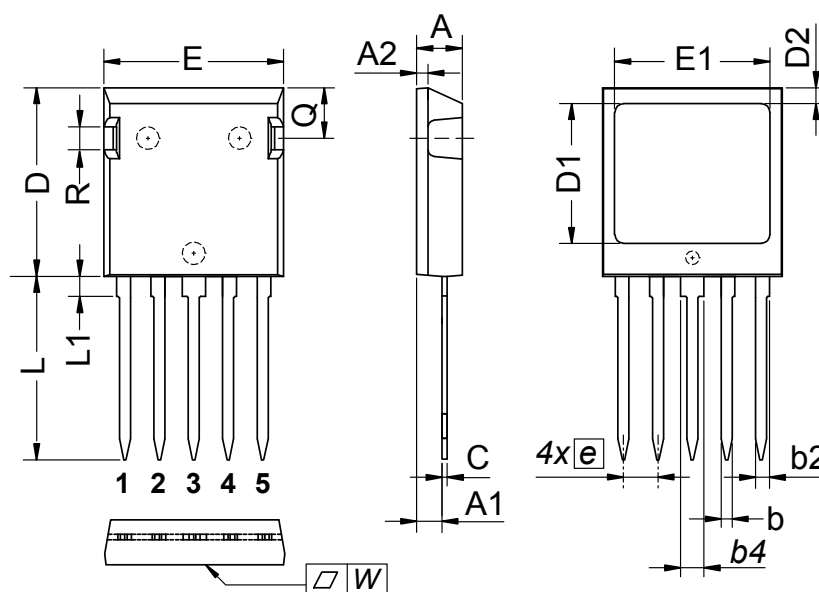
Applications

- medium frequency power supplies
 - boost chopper for power factor correction
 - transformer primary switch
- drives: supply of
 - switched reluctance machines
 - armature or excitation winding of DC machines
 - excitation winding of synchronous machines

Diode			
Symbol	Conditions	Maximum Ratings	
V_{RRM}	$T_{VJ} = 25^{\circ}\text{C to } 150^{\circ}\text{C}$	600	V
I_{F25}	$T_C = 25^{\circ}\text{C}$	52	A
I_{F90}	$T_C = 90^{\circ}\text{C}$	31	A

Symbol	Conditions	Characteristic Values		
		min.	typ.	max.
V_F	$I_F = 30\text{ A}$		$T_{VJ} = 25^{\circ}\text{C}$	2.2
			$T_{VJ} = 125^{\circ}\text{C}$	1.5
I_R	$V_R = V_{RRM}$		$T_{VJ} = 25^{\circ}\text{C}$	0.3
			$T_{VJ} = 125^{\circ}\text{C}$	0.3
I_{RM}	$I_F = 30\text{ A}; di_F/dt = -500\text{ A}/\mu\text{s};$ $V_R = 300\text{ V}; V_{GE} = 0\text{ V};$		$T_{VJ} = 125^{\circ}\text{C}$	15
t_{rr}				70
R_{thJC}	with heatsink compound			1.3
R_{thJH}				2.6

Component					
Symbol	Conditions	Maximum Ratings			
T _{VJ}	operating	-55...+150	°C		
T _{stg}		-55...+125	°C		
V _{ISOL}	I _{ISOL} ≤ 1 mA; 50/60 Hz; t = 1 s	2500	V~		
F _C	Mounting force with clip	20...120	Nm		
Symbol	Conditions	Characteristic Values			
		min.	typ.	max.	
C _P	coupling capacity between shorted pins and mounting tab in the case		40		pF
d _S , d _A	pin - pin	1.7			mm
d _S , d _A	pin - backside metal	5.5			mm
Weight			6		g



DIM.	MILLIMETER		INCHES	
	MIN	MAX	MIN	MAX
A	4.83	5.21	0.190	0.205
A1	2.59	3.00	0.102	0.118
A2	1.17	2.16	0.046	0.085
b	1.14	1.40	0.045	0.055
b2	1.47	1.73	0.058	0.068
b4	2.54	2.79	0.100	0.110
C	0.51	0.74	0.020	0.029
D	20.80	21.34	0.819	0.840
D1	14.99	15.75	0.590	0.620
D2	1.65	2.03	0.065	0.080
E	19.56	20.29	0.770	0.799
E1	16.76	17.53	0.660	0.690
e	3.81 BSC		0.15 BSC	
L	19.81	21.34	0.780	0.840
L1	2.11	2.59	0.083	0.102
Q	5.33	6.20	0.210	0.244
R	2.54	4.57	0.100	0.180
W	—	0.10	—	0.004

Die konvexe Form des Substrates ist typ. < 0.05 mm über der Kunststoffoberfläche der Bauteilunterseite
The convex bow of substrate is typ. < 0.05 mm over plastic surface level of device bottom side

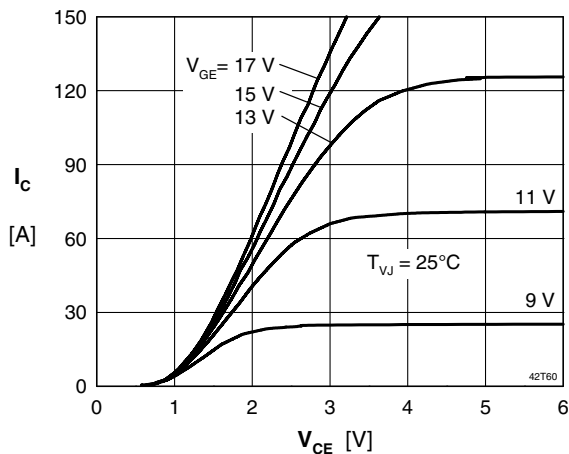


Fig. 1 Typ. output characteristics

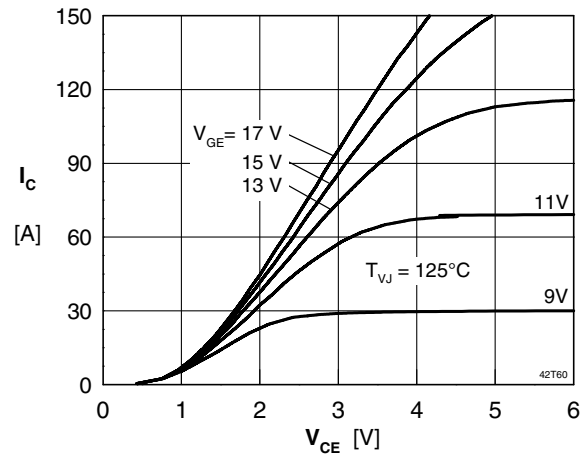


Fig. 2 Typ. output characteristics

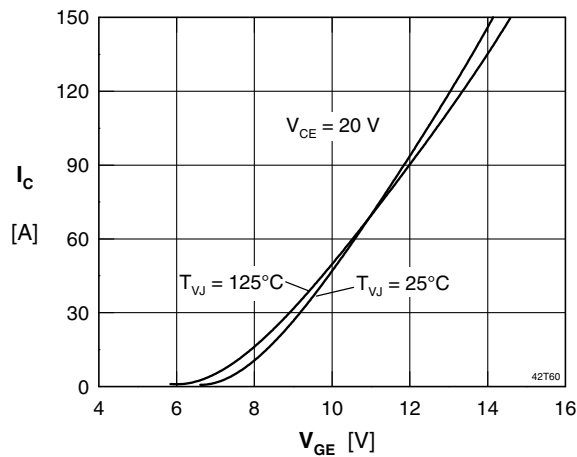


Fig. 3 Typ. transfer characteristics

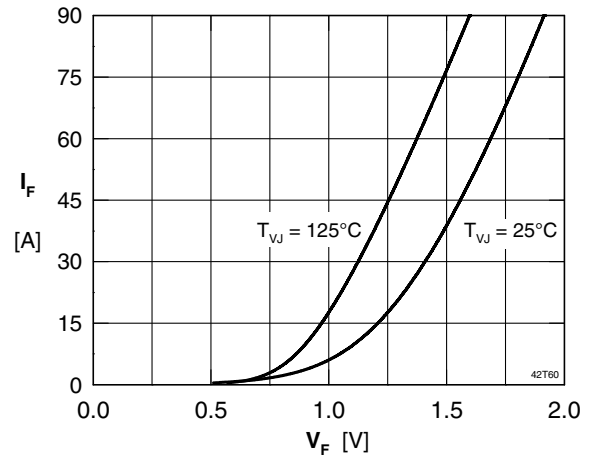


Fig. 4 Typ. forward characteristics of free wheeling diode

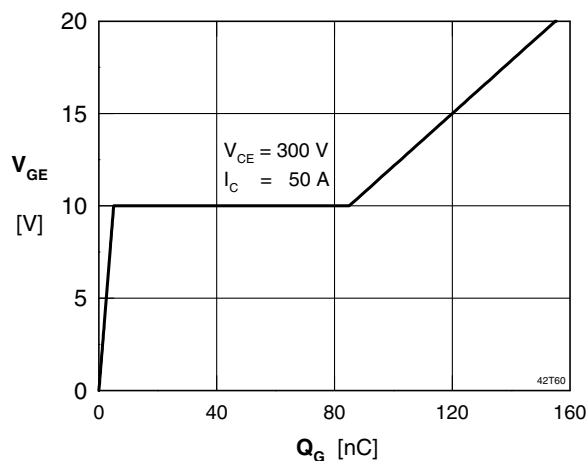


Fig. 5 Typ. turn on gate charge

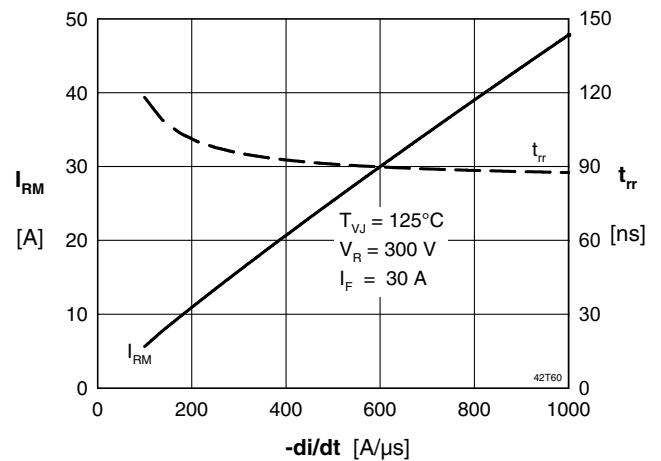


Fig. 6 Typ. turn off characteristics of free wheeling diode

